

THE *Country* GUIDE

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THE *Country* GUIDE

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Editor: H. S. FRY
Associate Editor: RALPH HEDLIN
Assistant Editor: DON BARON

Extension Director: G. B. WALLACE

Home Editor: AMY J. ROE
Assistant Home Editor: LILLIAN VIGRASS

Advertising Sales Manager: R. J. HORTON

J. E. BROWNLEE, Q.C., President R. C. BROWN, Managing Director
Business Manager: J. S. KYLE

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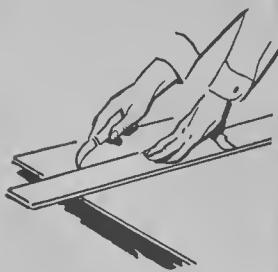
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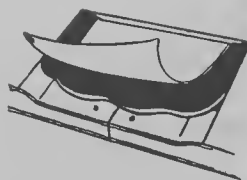
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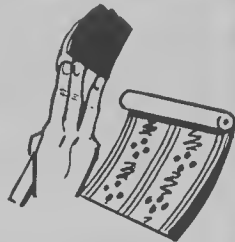
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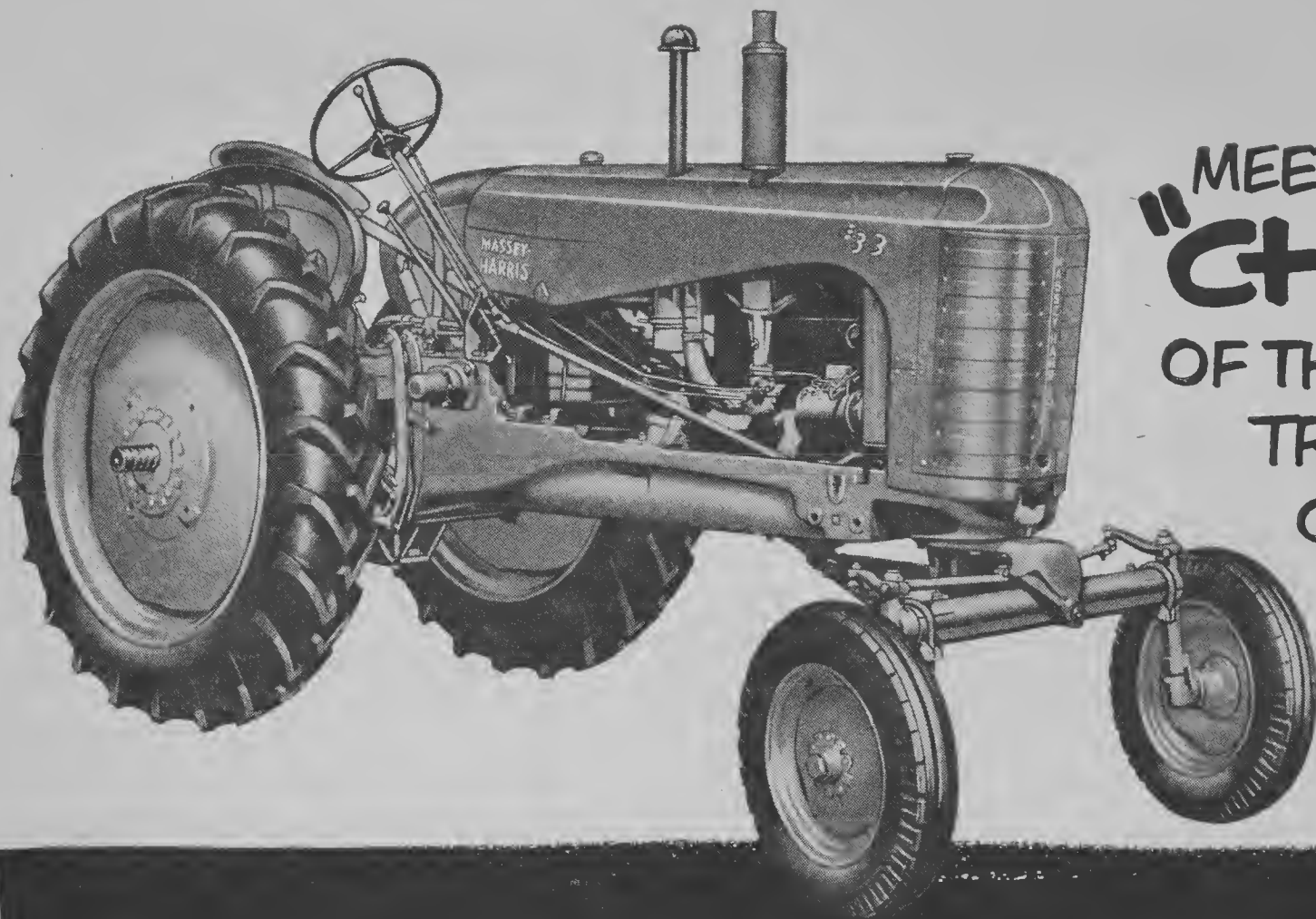
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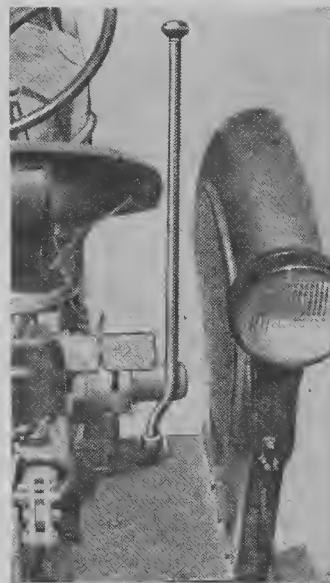
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Under the Peace Tower

by HUGH BOYD

WHEN the South Saskatchewan report rudely muscled in on territory already pre-empted by the Currie report, it caused something of a diversion at the capital. The government might have been grateful for this, but for the fact that the new document spelled new trouble.

It should be said at this point that what follows has been written (because of the mechanics of publication) very soon after the tabling, in the Commons, of the Royal Commission's report on the proposed multi-purpose scheme on the South Saskatchewan River. At that time, members of parliament had scarcely begun to digest the 423-page document, and it's safe to say that most of them haven't done so yet, and maybe never will. Possibly, however, most members have taken the trouble to go through the first 40 pages, which actually constitute the report proper, minus elaboration. If this is so, upon those 40 pages rests a decision affecting the expenditure of many million dollars, and the lives of the people who live in the three prairie provinces.

This report, the combined product of two Canadian experts on power, and one American authority on irrigation, is unusual in at least two respects. In the first place, its major conclusions were known to the public several weeks before Prime Minister St. Laurent presented the document to parliament on January 19. For the most part, the press speculations on what the report contained were remarkably accurate. And second, this is a case of a royal commission asking a government *not* to do something which it was already more than half inclined to do.

The alternatives, of course, represent the heart of the South Saskatchewan report. But they are not the kind to be quickly appraised by a parliament which had come almost to take the big Coteau Creek dam for granted. They require a fresh approach.

If it is true that most members from the prairie provinces were not entirely prepared for the Hogg-Widtsoe-Gaherty findings (which were unanimous), what is to be said of the reactions from other parts of Canada?

The rest of Canada, measured by its representatives in the House of Commons, was nonplussed. It became aware for the first time that a scheme designed to reduce the hazards of drought in Saskatchewan (a national liability in the '30's) did not command universal support in the prairie region. It learned particularly of Manitoba's interest in hydro development on the lower reaches of the great river. Its collective head buzzed on reading of distinctions between the "hard core" and the "fringe" of the natural drought area, the dust bowl, of western Canada.

One reason for this bewilderment may be traced to the teachings of the late John R. MacNicol, who, as Conservative member for Toronto-Davenport, was respected and liked in all parts of the House. Mr. MacNicol was an eastern manufacturer who saw clearly that the prosperity of his own company depended very largely on the prosperity of customers out West. He



was the kind of man whose instincts led him beyond considerations of personal advantage. The point here, at any rate, is that he travelled widely in the West and became a convert to irrigation. His speeches in the Commons made an impression on non-prairie members, so that they were all the more inclined to listen to proposals for prairie irrigation schemes.

For this reason, the Outlook dam proposition had a generally favorable audience from the beginning. If it meant a more stable economy in almost the most economically unstable of all Canadian provinces, as the average parliamentarian saw the matter, it should go ahead. Little was grasped of the over-statements on behalf of irrigation as a whole. Nor has it been understood, until now, that even sections of Saskatchewan that have suffered cruelly from drought in the past, are not yet completely enthusiastic about a long-rubber-boot as opposed to a dry-farming-and-take-your-chance regime.

The Outlook project is geared to other things beside irrigation. Yet it is doubtful whether these other considerations—power, municipal water supply, flood control, and recreation—have ever made anything like the same impact on the minds of members outside the prairie region, even outside Saskatchewan. There's been a tendency to believe that if water could be spilled over the Palliser Triangle (a term itself imperfectly understood), all would be much better for Canada.

What parliament has now been asked to decide is not such a simple question, involving X dollars, but rather to resolve the conflicting opinions of several schools of thought within the West itself. The conflict is over the best ways to use a large and yet relatively limited resource, the waters of the entire Saskatchewan River basin, for the benefit of the people in, not one province, but three. Each school can marshal strong arguments on its side; and the point of view depends on geographic location. It varies from the foothills, through the normally dry country, to power-hungry Manitoba. Each river diversion scheme has its proponents and opponents. It is small wonder that other parts of Canada feel somewhat baffled.

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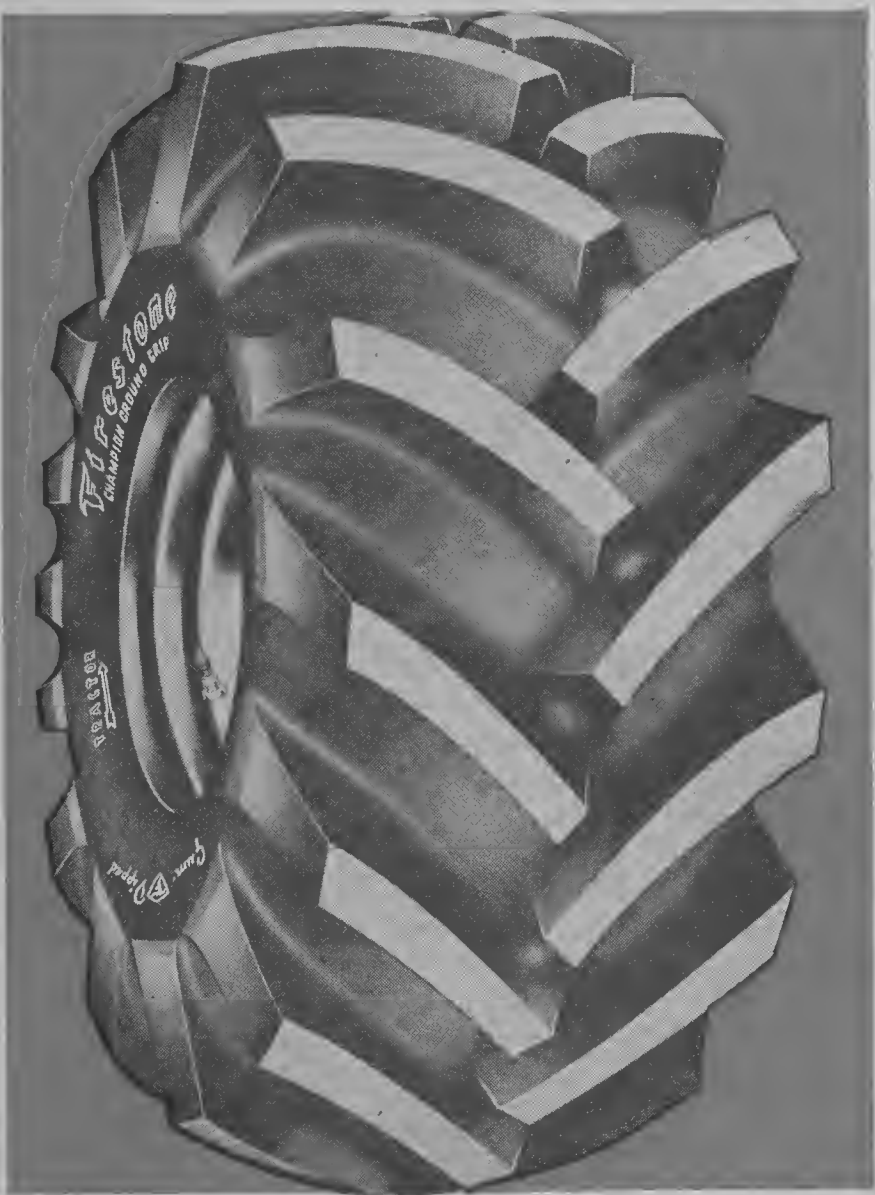
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THE Canadian Federation of Agriculture came into being in the autumn of 1935, and this year held its annual meeting—the 17th—for the first time in British Columbia, at Victoria. British Columbians are hospitable folk, proud of their scenic coastal province, and the B.C. Federation of Agriculture certainly did nothing to mar this reputation. Unfortunately, for visitors, B.C. was experiencing a record number of consecutive rainy days. There was some sunshine, but Victoria pavements were nearly always wet. The temperature, however, was high by any prairie standards, and the grass was a deep, rich green. Indeed, as this is written, the radio reports a temperature of 47 degrees above zero at Victoria, while Winnipeg “enjoys” one of its first generous snowstorms of the winter and a temperature of 27 below.

The CFA must be one of the most economically operated national farm organizations in existence. It has 13 member organizations, who contributed a total of \$64,900 in 1952. Seven of these are provincial, or regional federations of agriculture. Three member organizations represent Quebec which has no provincial federation. The remaining three are the Dairy Farmers of Canada, the United Grain Growers Limited, and the Canadian Horticultural Council. The CFA thus represents over 400,000 Canadian farmers, and member organizations pay annual dues ranging from \$100 to \$14,500, depending on the number of farmers they directly represent. The Federation, in turn, contributes about 25 per cent of its total revenue to other organizations, including \$10,400 to the International Federation of Agricultural Producers, and \$6,000 to National Farm Radio Forum, which is jointly sponsored by the Federation, the Canadian Association for Adult Education and Canadian Broadcasting Corporation.

Much of the work of the CFA is of a routine nature and gets little publicity. There is frequent consultation with government departments and constant contact on matters relating to floor prices, price policy and agricultural statistics. Freight rates, customs duties, income tax and tariffs necessitate the preparation of briefs and appearances before, or correspondence

Canadian Federation of Agriculture

CFA annual meeting gingerly handles some thorny problems and leaves others for further study

with, various boards and officials. Membership on various bodies and committees requires a great deal of time since it involves at least a dozen organizations.

THE one subject which invariably takes up more time, one way or another, than any other at a Federation annual meeting, is the net income position of agriculture, or the ratio between the cost of things purchased by farmers and the prices received for farm products. Probably two-thirds of the 79

by H. S. FRY

resolutions dealt with by the Federation revolved around this point, and related more or less directly either to prices or costs. The Rt. Hon. James G. Gardiner, Minister of Agriculture, was in his usual provocative mood when he addressed the annual meeting on the first day, and drew some fire when he made a comparison between the six years before and the six years after the war, on the basis of

production, prices and gross income, without mention of costs or net income. After stating that during the six postwar years, Canadian farmers produced one-third more of wheat and beef, about one-half more of pork and eggs, and about one-fifteenth more of milk than for a similar period before the war, he stated that “prices on those five products will average at least 65 per cent higher.” He then suggested that “the difference is best represented in the gross farm income” of the two six-year periods. “The average annual total for the last six years,” he said, “is \$2,300,000,000, and for the previous period, \$600,000,000, or about four times as much.”

For the first time anywhere, as far as we are aware, the Minister compared the average market price with the “parity” price used under the Agricultural Prices Support Act. This is the average of prices for individual products during the last three years of the war (1943-45). The Minister chose six products and made comparisons between the average market price for 1949-51, and the 1943-45 or parity price in each case. The figures showed that the average market prices for the last three years were as follows, where the parity, or 1943-45, price is indicated in brackets: Cheese at Montreal—32.9 cents per pound (30.7 cents); No. 1 butter at Montreal—61.9 cents per pound (62.3 cents); B1 hogs at Toronto—30.6 cents per pound (25.16 cents); cattle at Toronto—26.45 cents per pound (16.8 cents); B.C. apples—\$3.08 per box (\$3.90); eggs, Grade A large at Montreal—58.8 cents (63.5 cents). There had been a considerable decrease in the production of all staple farm products except cereals during the past three years, as compared with the last three years of the war. Despite this, he said, returns “are almost double.” Actually the comparison of average annual farm value for

the six products chosen by the Minister was \$763.7 million for the three war years, as compared with \$1,110.1 million for the last three years, an increase of 44 per cent.

The Minister said that in the years since the war, Canadian farmers have done as good a job as any other part of the Canadian economy. Un-

(Please turn to page 76)



Top left: Gilbert McMillan, president, and Gordon Loveridge, vice-president, of The Dairy Farmers of Canada. Top right: Hon. D. A. Ure, Alberta, and Hon. R. D. Robertson, Manitoba, two of the five ministers of Agriculture, who appeared at Victoria. Lower left: Mrs. N. R. Archibald, Truro, N.S., Mrs. Fred Harkness, Grandview, Man. (two CFA women directors); with Mrs. Geo. A. Weir, Burford, Ont., Mrs. E. A. Dunne, Govan, Sask., and Mrs. W. C. Taylor, Wainwright, Alta. Lower right: J. T. Wilton, president, Manitoba federation; S. S. Sears, Nanton, Alta. (seated), director, U.G.C.; C. A. Milligan, president, Ontario federation; and C. E. Walls, secretary-manager, B.C. federation.



These two families represent many others moved to safer land, from crop failure districts.

THE Prairie Farm Rehabilitation Act, passed by the Parliament of Canada in 1935, marked the beginning of an important era in the development of the Canadian prairie region. The original objectives of the Act were to minimize the problems of drought and soil drifting. In 1937, the Act was amended to provide for the resettlement and rehabilitation of farmers from areas where land was unsuitable for crop production; and further amendments, in 1939 and 1941, were designed to still further provide for, and broaden, such activities.

Thus, drought and soil drifting were recognized as national problems having many ramifications, the solution of which involved the work of all governments, as well as the farmer. During the intervening 18 years many changes have occurred in agricultural practice, and the farmer is now in a position to meet the problems associated with drought more successfully. There never has been a period in Canadian

history when such co-ordination has been secured between agricultural science, education and the work of the farmer.

Planning on a large scale was made possible by the results of 30 years of research after 1900. Further co-ordination took place between the agriculturist and the engineer. It was possible to bring together the combined efforts of universities, provincial departments of agriculture, rural municipalities, and federal agencies. PFRA not only provided the impetus to work on immediate drought problems, but made possible the planning required to meet the long-term problems of rehabilitation, which it was necessary to solve, if better land use was to be secured over a long period. Experience and knowledge gained during the intervening years make possible, today, some of the programs for increasing the productivity of land by the conservation of soil and water resources.

The most urgent and important problem in 1935 was the control of soil drifting, and the application of dry-land farming methods, which would keep this problem under control in the future. Many people at that time were pessimistic, and believed that grain farming on the prairies was destined to ruin, and that the prairie soils would become a desert.

SOIL-DRIFTING measures were initiated, however, as a result of the experience of farmers, and experiments carried out by the Experimental Farms Service. These included strip-farming, the use of trash covers on fallow, a cloddy soil surface, and tillage practices, which develop maximum resistance to the abrasive action of wind. Assisted by PFRA, farmers were organized into agricultural improvement associations. Along with agricultural officials, they planned corrective measures to save the soil. The Experimental Farms Service established substations on section farms throughout the prairies, to determine the best dry-land practices under differing soil and climatic conditions. The work on these farms was done by experienced farmers and the farms themselves became outposts of agricultural science. In the writer's judgment, they have come to represent one of the most valuable extension and educational measures ever initiated in this country.

A NEW philosophy of soil moisture conservation was made possible as a result of the research work done since 1920. Rainfall during the growing season was not sufficient to produce profitable crops. During years of low rainfall, the amount of moisture conserved in the soil was less than normal, because of high evaporation. Further research increased our knowledge of how to store additional moisture in the soil for the following year, mainly by fallowing. Active programs of extension caused the application of soil moisture work, coupled with

The PFRA

Canada was midway through the disastrous '30's before there was effective recognition of the national importance of the drought problem on the prairies. The Prairie Farm Rehabilitation Act has now been operative for nearly 18 years; and because few Canadian farmers have been in a position to realize the extent of the work made possible by this legislation, the editors of The Country Guide have asked the director of PFRA, Dr. L. B. Thomson, to prepare for our readers this fairly complete account of what PFRA has done. The record shows a total cost, to March 31, 1952, of \$39,019,660 for work inside the PFRA area, in addition to \$25,523,412 for special projects in the four western provinces, outside of the PFRA area, for which money was provided separately by parliament.

practices for controlling wind erosion, to become the bible of the dry-land farmer.

Much of this work was not spectacular, but it was most important to the future of grain farming. Today, prairie farmers have developed a new technique in dry-land farming that is without precedent in any other part of the world. Should continuous dry years occur in the future, one would not expect the same serious soil drifting that occurred during the '30's. Other factors, such as changes in farm implements to meet the requirements of proper tillage, increased mechanization, both as to quantity and efficiency, as well as the movement of farmers to better soil types, have also contributed to improvement. Nevertheless, a review of the past suggests that, to the degree that confidence has been established in the improvement program, the turning point was the co-ordination developed between the farmer and the agricultural scientist, mainly through the Experimental Farms Service. Today, the same work has been extended in a co-ordinated extension program by the provincial departments of agriculture.

SHORTAGE of water for livestock and for domestic use was serious during the '30's. Engineering service, which had been provided previously to farmers by the Dominion Irrigation and Reclamation Service, had been discontinued in 1929, though the need for such service was still evident. PFRA first recruited all experienced engineers in this field and co-ordinated their efforts with a well-planned agricultural program. It was recognized, too, that the cost of water-storage projects on the farm was beyond the capacity of the individual farmer to pay. The government of Canada, therefore, undertook to provide financial assistance, on a self-help plan, for farmers within the PFRA area, to the extent of from one-quarter to one-third of the total cost. The accompanying table (page 43) is a tabulation of the developments undertaken by farmers since 1935.

In addition to the construction of these projects, engineering service had been provided for a further 21,000 individual projects, making a total of 67,534 projects in all, at a cost to the government of Canada, to April 1, 1952, of \$5,466,832. This assistance helped more than 4,000 farmers to become rehabilitated on their own farms. Estimates of irrigable acreages are difficult to obtain, but it is conservatively estimated that more than 120,000 acres are now irrigated on individual farms outside of irrigation districts, and spread over a wide area.

Had it not been for this development, shortages of feed for winter use would have prohibited safe livestock programs on these farms. The assurance of a water supply to 46,000 prairie farmers, not only provided an important element of safety for livestock production, but is considered by many to



The cattle (above) are on a community pasture regressed with crested wheat grass. Below is the St. Mary River dam and reservoir.

Record

by L. B. THOMSON

have created a form of security through joint investment by the farmer and the federal government, that has been unequalled from any other investment made on the prairies.

This policy is still in effect. Another 15 years of such engineering and financial assistance will provide further substantial help toward a more stable agriculture on the prairies. It will reduce the hazards of drought in the future; and suggests that the next step should be to combine water storage with the control of soil erosion by water. Developments in this direction are already taking shape. Control of water through the application of engineering principles, combined with well-planned land use on the farm, can greatly reduce the erosion of soil, which is usually caused by rapid spring run-off, or by heavy summer storms.

Where there is a local watershed that will provide water storage for several farmers, a program of community development has been under way by PFRA. Water is thus provided for irrigation, as well as for stock watering and domestic use; and sufficient water storage has already been created to irrigate 328,758 acres of land in the southern part of the prairie. Thousands of miles of coulees, creeks and streams, which usually dry up in the late summer season, have been replenished with water by a continuous stock-watering supply from water storage.

Here again, co-operation between PFRA and the farmer is the formula followed. The capital cost of storage is met by PFRA, which enters into an agreement, either with the rural municipality, or with a group of farmers organized into a water users association. The farmers undertake part construction of a distribution system, and the work of irrigating the land on individual farms. Provincial governments now assist in the construction of the distribution system on the projects. Both the Alberta and Saskatchewan governments have assisted with many projects in this way. Part of the cost is collected by the province, through the sale of water rights to the individual farmer. The 244 community water storage projects so far constructed consist of 92 for stock water, 84 for irrigation projects, 57 for

combination irrigation and stock-watering projects, and 11 which provide domestic water supply as well.

BY 1936, drought conditions had depleted livestock herds in southwestern Saskatchewan and southern Alberta to a very serious extent. A concentrated effort was made, therefore, to develop larger irrigation projects in these areas, for which the government of Canada assumed full responsibility as to the total cost, including purchase of the land to be irrigated. The projects at Val Marie, Eastend, Consul and Maple Creek were of this type. Crown land was transferred to the federal government by the Saskatchewan government. PFRA has maintained and operated these projects ever since, but the farmer pays a water rate of \$1.50 per acre, for maintenance and operation costs. PFRA also prepared and levelled the land for irrigation, and constructed the ditches on the farms—all charged, at cost, to the farmer. At first, the land was leased, but when the settlers had proved themselves, they were allowed an agreement for sale, which included the water right and all costs of improvement.

A recent appraisal of these projects shows that the capital cost has been fully justified; a safe and sound livestock economy has been developed, and over 700 farmers have been re-established. In 1937, for example, it was necessary to bring in a trainload of hay from eastern Canada for the area now covered by the Val Marie and other projects. Thousands of cattle were forced on the market, at from one-half to two cents per pound. At the beginning of the Val Marie project, only 250 head remained, but by 1952, farmers had built up their herds to over 4,000.

The development of this and other projects has been gradual and sometimes difficult. Nevertheless, over 2,500 farmers have been re-established on all projects. More than 5,200 farmers have been able to insure their livestock production, if individual farm irrigation projects are included as well. In 1949, one of the driest years in the history of southwestern Saskatchewan, no cattle were forced on the market, nor was it necessary to ship in feed.

IN addition to resettling farmers on irrigation projects during the dry years, many farmers were moved to other areas, where better soil and climatic conditions were obtained.

Many, also, moved on their own initiative. As a result, the land they left behind them became a liability, containing, as it did, not only large areas of overgrazed, native pasture lands, over which roamed large numbers of surplus horses, but much previously cultivated land, which was in an abandoned and weedy state.

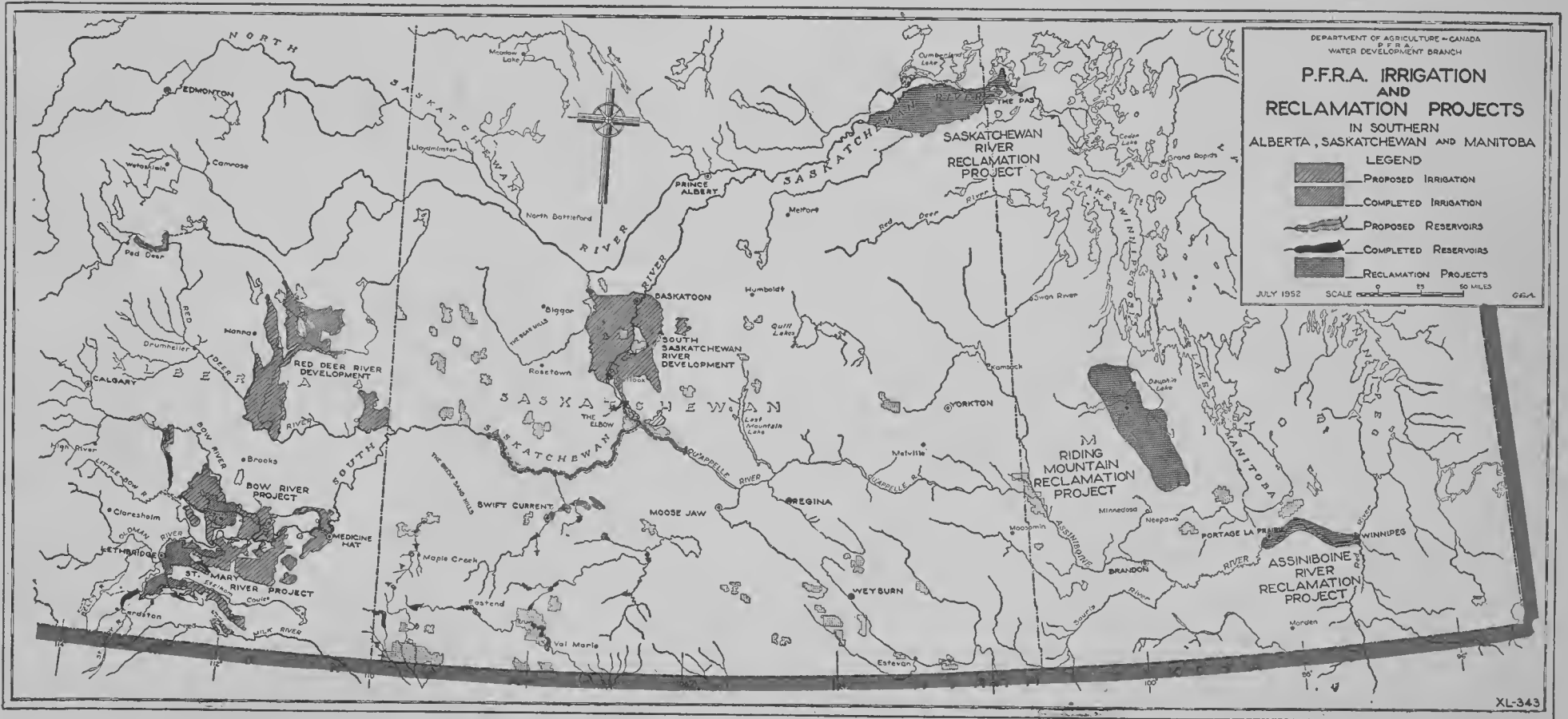
A community pasture program was, therefore, inaugurated in 1937, under which the government of Canada entered into agreements with the governments of Saskatchewan and Manitoba, for the reclamation and improvement of these lands by fencing, the development of water facilities, the regrassing of certain areas, and the gradual development, through research and experimentation, of newer and more suitable grasses, along with proper grazing management.

Since 1937, 1,590,200 acres of land have been enclosed in 57 operating pasture units. As a result, 83,000 cattle were grazed on these community pastures by 6,500 patrons in 1952. Up to March, 31, 1952, the

(Please turn to page 43)



[PFRA photos.]
The stock-watering dam on this community pasture (above) is appreciated by these cattle. Below is a field in the Bow River Project, east of Vauxhall, irrigated on the contour.





Before the girl could say anything, the young man came toward them.

Around Four Corners he was known as "old John Douglas, the woman-hater," and as a man who accepted no favors. He was dependent on hired labor and was in search of help, when along came a young couple offering to strike a bargain, with the girl promising to keep out of his way

shouldn't hold anything against women for that. Best thing that ever happened to him, he knew. After three years of working around, he had located a homestead north of Edmonton, and there he had stayed.

He'd only written home to his brothers a couple of times since coming to Four Corners. He'd had no time. He had prospered and made a lot of money. He had one of the best half-sections in Four Corners, or indeed in the entire district surrounding the town of Dreyton. He had a large, comfortable house, in which he lived alone. He got on well with his neighbors. The wives of some of them fussed a bit, sending him stuff at Christmas, and so on, but he wished they wouldn't.

HE was courteous, but aloof with the women, friendly with the men, and soft-hearted and generous with the kids.

But he had never forgotten 18-year-old Mary Sanderson, who had jilted him to run off with and marry his best friend. He had left women severely alone ever since. The young John Douglas had made as his motto, "He travels the fastest who travels alone," and he had succeeded. If he had missed a portion of happiness, he figured he had missed a lot of grief, too.

Now he said to Hank Richars, "I don't want a couple. I want a good, strong, hardworking man, but it doesn't seem like there's one to be found."

Hank swallowed, potted about in a hesitating fashion, then said sturdily, "Well, I might as well tell you, and get it over with. There's a man and his wife right now waiting at your place to see you." At John's incredulous stare, Hank blinked and went on, "They were looking for your place, and I told 'em how to get there. You must have passed them on the road, if you came from home . . ."

"I passed an old coupe, a dark green one," said John, "as I turned the corner at Williams'."

"That's 'em." Hank nodded his sandy head. "Guess they came from the employment office in the city. Said they'd been driving since noon."

"Well, they can just turn around and start driving back." John Douglas threw a dollar bill on the counter. "That's for the kids' pop. I'd better get back home. I don't want any strange woman poking about in my kitchen. Maybe they'll have gone by now."

"I don't think so," said Hank. "I told 'em I didn't think you'd be interested in a married couple, but they said they'd see you, anyway. They'd probably wait."

John said again, "Ha!" thinking to himself, "I bet you told them I was a miserable old cuss with no use for a woman around the place."

He went out and climbed stiffly into his car. Darn this rheumatism, or whatever it is, he thought angrily. If it wasn't for that, I could do all my own work as easy as ever I did. He put the ten-year-old car, that was almost in the same good condition as the day he bought it, into gear, and drove off along the road.

His gaze rested appreciatively on the fields of young wheat, the thick growth of clover, the neat fences with the slender green-decked poplars, and the alders growing alongside. As always, he thought what a grand country he lived in. There was no place quite as good as Four Corners!

If only a man didn't have to grow old. If only he could keep the strength and vigor of his youth. If only he wasn't dependent on hired labor to help out. And, although he (Please turn to page 48)

"HAVE you got a hired man yet, John?" Hank Richars, the genial storekeeper of Four Corners' General Store, finished packing the big wooden box with groceries for John Douglas. "Here," he said, as John grasped the box, "I'll carry them out to the car for you."

"I can carry 'em myself," John stated brusquely. His hands, swollen with rheumatism, held painfully to the sides of the box as he lifted it from the counter, kicked open the screen door, and awkwardly lugged the heavy case to his car. "I'm not helpless, if I am 68," he muttered. Then, as Jimmy, Hank's eight-year-old youngster, opened the car door for him, John's grim face relaxed in a grin.

"Thanks, Jimmy," he said, "come on back in the store with me and have some pop."

"Gee, Mr. Douglas, that's swell." Jimmy trotted beside John's big frame, back into the store. The school bus with the Four Corners' students who went to high school at Dreyton, 15 miles away, roared up. A group of girls and boys descended, and surged into the store.

"You might as well give this lot a bottle of pop apiece," said John Douglas, then he went on, in answer to Hank's earlier question. "No, I've got no hired man, and I sure as heck need one. Got a requisition in at the labor office in the city. I've advertised in the Herald, too. But no luck. Guess a farm 15 miles from town is too far for most of 'em."

"Too bad!" Hank shook his sandy head commiseratingly. "All alone, like you are, with your rheumatism bad at times, you sure need help with

that half-section. Maybe you'd better take Hans Ernst's offer and sell out. At least, you could quit milking cows and feeding pigs."

"Ha!" John's expletive was almost a snort. "Don't you try and persuade me to sell to Hans Ernst, and I've kept cows and pigs ever since I came to this country. Guess I'll manage till I die."

"I guess . . . I guess you wouldn't consider hiring

ANOTHER MARY

by KATHERINE HOWARD

a couple," suggested Hank gingerly. "Er . . . er, a man and wife, I mean. You know, the woman could keep house, like . . ." His bright eyes regarded John a little apprehensively.

"Ha!" exploded John again. He knew why Hank Richars felt nervous. He hadn't lived in Four Corners, since 1907, and seen the district grow from bush where trees were "as thick as hairs on a dog's back," to a thriving community of modern houses and gravel roads, without knowing what people thought of him.

He was "Old John Douglas, the woman-hater," and that was all right with him. Just because he had no use for women didn't mean that he disliked kids, though. Kids were pretty nice, John thought, and he figured kids liked him in return. But, preserve him from a woman!

It was a woman who had driven the 20-year-old John Douglas from England to Canada. But he

Illustrated by J. H. Petrie

Fifty Years of Tree Planting



[Guide photo.]

Yield was almost nil in the center of this field in 1950, on the farm of Hugh Kennedy, Conquest, Sask., but near the trees it was quite heavy. More than any other person, Mr. Kennedy's father, Peter Kennedy, was responsible for securing the establishment of the Conquest Shelterbelt Area.

TRAVELLING across Canada, one has the impression that there are too many trees east of Winnipeg, and too few trees in the prairie region farther west. It would seem that additional tree planting is not necessary in the eastern area, while in the western prairie region much remains to be done. Certainly in the interests of comfort and conservation, there is a place for many more trees in the plains region.

In the early years of settlement in the prairie provinces the need of tree planting was very acute, because of certain climatic and social factors. The latter still exist, but improved means of transportation and communication, particularly, have lessened their impact. Present knowledge of species adaptability and conditions affecting tree growth also insures a greater measure of success and quicker results from this undertaking.

Tree distribution throughout the prairie provinces, begun in 1901 under the Department of the Interior, has steadily progressed without fanfare. From a small average annual distribution of around 1,049,500 broadleaved trees, to 645 planters during the five-year period 1901-1904, the figures averaged 5,595,583 trees to 5,566 planters per annum in the five-year period 1947-1951.

Distribution of evergreen trees was instituted in 1910. The average annual distribution of evergreen trees rose from 56,790 trees to 315 planters during the five-year period 1910-1914, to 246,776 trees to 1,639 planters in the five-year period 1947-1951.

Following the establishment of the Dominion Forest Nursery Station at Indian Head, Saskatchewan, in 1903, the demand for planting material increased so much that a second forest nursery station was established at Sutherland, Saskatchewan, in 1913. During the two years 1901-1902, planting material was distributed from the Dominion Experimental Farms at Brandon, Manitoba, and Indian Head, Saskatchewan. As at the end of 1951, there have been distributed by the two forest nursery stations, a total of 228,288,216 broadleaved and 6,181,830 evergreen trees.

No great deal of imagination is necessary to visualize the effect of tree distribution on the scale indicated above, on the appearance and value of the prairie region of Canada. It is safe to say that one of every three farms in this region has benefited by help, material and service provided by Dominion forest nursery stations. It is estimated that trees have been supplied to about 100,000 farm units. Another 75,000 are considered to be located in naturally treed areas, and approximately 75,000 other farms would benefit from planting substantial numbers of trees.

Expressions of concern have been forwarded to the Forest Nursery Station over the removal of too many trees in new areas being utilized for settlement. Such a development might seriously influence the conservation of soil, wildlife and other resources. That is the other side of the tree planting picture!

UNTIL about 1940, tree planters concentrated on the planting of trees in farm or home shelter-



These young trees on the Forest Nursery Station, Indian Head, Sask., are for distribution to prairie farmers.

belts. In the intervening years an increase in the planting of field shelterbelts has been most significant. Reasons for this change in the prairie farm tree planting picture are: (1) Benefits from field shelterbelts are becoming known, and planters realize that they need not interfere with the operation of large machinery and farm implements; (2) Tree planting machines now available, facilitate the handling of larger numbers of trees by individual planters; (3) Because more farmers now reside in urban communities, there is proportionately less demand for trees for farm or home shelterbelts.

The following figures indicate how widespread the interest in planting field shelterbelts has become: In 1943, 71 planters used 220,350 trees; in 1947, 92 planters required 377,250 trees; while in 1951, 583 planters were supplied 2,188,925 trees. It might also be observed that, at a spacing of 18 inches in the row, the 1951 planting of field shelterbelts is equivalent to a row of trees 620 miles long.

For the most part, common caragana has been planted in field shelterbelts. A very popular field shelterbelt is one composed of a single row of caragana, with trees (box elder, green ash, or American elm) substituted for caragana at intervals of about ten feet. However, with an increasing use of tree

A look at tree planting on the prairies, and some of the lessons learned

by JOHN WALKER

planting machines, the trend in field shelterbelt planting is toward alternating caragana with a tree at the spacing in the row already indicated. Much credit for the increased use of tree planting machines is due to provincial authorities, including agricultural representatives.

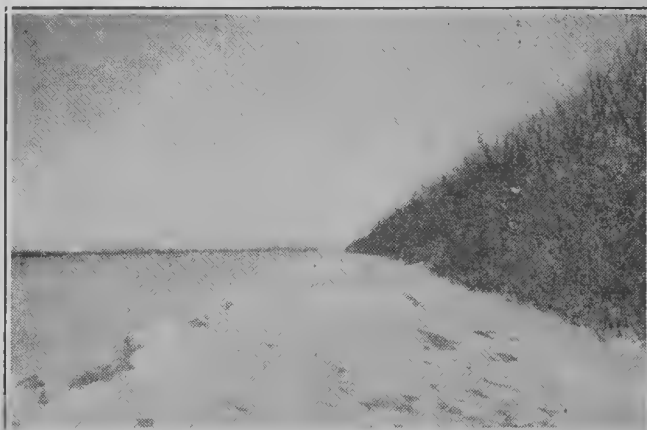
General interest in planting field shelterbelts has been stimulated, in no small part, by developments in the important experimental field shelterbelt areas at Lyleton, Manitoba, and at Conquest and Aneroid, Saskatchewan. In these project areas, begun as P.F.R.A. projects in 1935 and 1936, field shelterbelts, mostly single rows of caragana (willow in low spots), have developed to the point that the appearance of the countryside is decidedly more attractive, and conditions for crop production and soil conservation are greatly improved.

A few statistics concerning these field shelterbelt areas, to the end of 1951, are given in the accompanying table (page 35).

The experience of most farmers with healthy, well-developed, and properly located field shelterbelts indicates that in most years substantial benefits are manifested by lessened wind damage, greater snow accumulation, reduced soil drifting and higher crop yields. The wise plan would seem to be to capitalize on these possible benefits, each of which means the lessening of some hazard to the agricultural economy.

WHAT about the older plantations in the prairie region? The influence of climate and soil are strongly reflected in height and vigor of trees. There is the well-cared-for farm shelterbelt on the Portage Plains, with towering cottonwood and poplar forming a spreading story above the smaller box elder, elm, ash and willow. Near these, the foresighted planter has set out evergreen trees, which already are rapidly and steadily gaining on the broadleaved trees in height and spread of branches. Under normal conditions these belts should remain healthy and efficient for another 20 years.

Farther west, the older belt is less thrifty. The tops of poplars may be dead, and box elder, elm and ash have assumed bushier form. Gaps in the belt, and the presence of dead branches, reflect the influence of a more trying environment. Here, more attention must be given to weed control, the conservation of moisture and the suppression of diseases and insects, if tree growth is to remain healthy and vigorous. (Please turn to page 35)



[For. Nurs. St'n photos]

This picture illustrates how field shelterbelts effectively conserve moisture by accumulating snow.



Joe found the men waiting. He faced them, and talked quietly and quickly.

FRIDAY morning found a change in the weather. It was cold with a strong wind blowing from the north, bringing with it grey clouds that might mean heavy rain, or it might mean snow before night-fall.

It was the day of Oria Shorting's funeral.

McTavish was busy all morning making preparations for the afternoon and seeing that all was in readiness. Martha, of course, was tied down with the baby, who required her constant attention and care.

Angus Quincey was conscious but unable to speak. His vocal chords seemed to be paralyzed, a fact that distressed the old man so greatly that Joe had given him a sedative. He had tried hard to speak, and Joe's attempts to calm him had infuriated the old man who shook his head vehemently when Joe urged him to lie still and rest. He followed his son's movements with accusing eyes and made a feeble attempt to sit up. He seemed to have something on his mind, but gradually the sedative took effect, and Angus slept.

Oria Shorting was buried in the little cemetery on the hill, and the people who had attended the funeral came to the Hatchery for tea.

The funeral had been conducted quietly with no outward signs of sorrow, except one wild outburst of weeping from Willow Lebatt as she stood near the open grave. She had turned and run out of the gate as if she was being pursued, and then silence had fallen over the crowd again.

No one noticed, except perhaps Miss Glover, when Johnny Ottertail slipped quietly away and followed Willow to the shore. He found her there weeping hysterically. Willow refused to be comforted and pushed him away.

"Don't touch me!" she cried. "Don't you dare touch me. Get away from here, Johnny, and leave me alone! Leave me alone!" she screamed.

Tanya, a prisoner in the tower of the Old Fort, fearfully wonders who could deliberately plan to do her harm and despairingly looks for someone to come to her rescue. Her absence from the cottage is discovered by McTavish who raises the alarm. Joe organizes the men of Pelican Bay into a search party to cover the river, lake and islands to find the missing girl

Tanya

PART VI

by KRISTINE BENSON KRISTOFFERSON

Johnny stood quietly by and waited. Later Willow stumbled toward him and threw herself into his arms.

"Oh, Johnny, Johnny," she sobbed. "I'm afraid. I don't want to die! I don't want to die!"

Johnny stroked her hair with a gentle hand and said nothing. This mood, like all the others, would pass and Willow would smile again.

TANYA ELLIS stared with dull, bloodshot eyes at the river and wondered how long it would be before death would release her from her prison. She had given up hope of ever being rescued. It was Friday, and she had been here since Tuesday evening, and no one had come. No one would ever come after this. No one had any intention of coming. They were all in the conspiracy, all of them, and their friendship had just been a ruse to disarm her and put her off her guard. They had never forgiven her, and they had been waiting for a chance to pay her back. It was futile to stand watching the river, keeping alive the tiny shred of hope that still flickered in her mind. But she had to stand some-

where, and she might as well stand by the window.

She shivered in the chilly air that blew through the broken windowpane. The wind was cold, with a penetrating coldness that seemed to creep into her very bones. How long would she have the strength to stand here and watch for the rescue party that would never come? Only two cigarettes were left and then what would she do?

She laid her throbbing head on the window sill and closed her eyes. It was almost funny to think that she had lived through years of war, escaped from a Japanese concentration camp only to die from slow starvation in an old abandoned fort. Wild laughter gurgled in her throat, but she suppressed it with an effort. It would be awful to hear her own insane laughter ringing in her ears.

The floor seemed to sway gently under her feet. Her mouth felt parched and her tongue thick and a little swollen.

She dropped down on the wooden bench and stretched herself out at full length.

There was only one answer to this—Angus Quincey had locked her in and left her to die. Angus was insane. His mind had become unhinged with years of living alone, brooding over the death of his wife, and his son whose life he considered ruined by the girl from the summer lodge.

She was going insane herself. She couldn't think clearly any more. She could only think about the lingering death that faced her unless Angus Quincey returned and killed her in his madness.

It would be a terrible shock for the one who would find her. Perhaps next summer some curious visitor from the summer colony would push open the trap door and find her body. What a dreadful experience. She only hoped it wouldn't be a child. Children were so deeply impressed. The memory would linger on for years.

She closed her eyes and half-dozed, dreaming always of water, cool, refreshing water that she waded gratefully into, only to wake up with a start when she bent down to take a drink.

WHEN the last guest departed, McTavish picked up Tanya's mail and got into the *Jolly Canuck*. The *Northland Queen* had arrived that afternoon with several letters and magazines for Tanya. She

would have to go with the *Queen* soon, as the boat wouldn't be making many more trips. The lake would be freezing up in a week or two, making travel impossible, if this cold spell kept up.

He tied his boat at the pier and walked up the steps. He noticed the white bit of paper under the stone and picked it up. He frowned as he read it. That was funny. She hadn't seen the note

from Joe. Maybe she hadn't been out of doors all day. Was she sick?

He pushed the kitchen door open and walked in. The silence was somehow oppressive.

"Tanya," he called loudly. "Tanya, where are you?"

There was no answer.

McTavish felt uneasy. He glanced into the bedroom. No one there. She wasn't in the cabin. He looked around the living room and saw the note he had propped against the lamp days before. He snatched it up. Yes, it was his note. It hadn't been touched. Tanya had never read it.

With mounting anxiety he stepped into the kitchen. The groceries were there on the table where he had put them the last time he visited the Lodge. Nothing had been touched. Something had happened to Tanya. She hadn't been in the Lodge since last Tuesday. Merciful God what had become of her? Last Tuesday! She had been missing for four days!

McTavish tore down to the pier and his worst fears were realized. Tanya must have gone on the river in the outboard, and she hadn't come back. The *Jolly Canuck* roared as McTavish, galvanized into action, opened the engine wide and headed back for Pelican Bay. (Please turn to page 55)

Illustrated by Clarence Tillenius

Federated Consumer Co-ops

by H. S. FRY

THE simplest meaning of the word *co-operate* is to *work together*. It is as simple as that. The word is one of many thousands that we have made up from the Latin language: *co* meaning *together*, and *operari* meaning *to work*. It is important to note that the operative part of the word means *to work*, and that the qualifying part means *together*. The moral, if any: it is impossible to co-operate by going fishing alone.

Of course, being for the most part Anglo-Saxons, we are careless in the way we use words. Just think, for example, of what we can do with a small four-letter word like *bank*: "He *banked* the fire, and after completing the *bank* around the house, walked to the *snowbank* along the *riverbank* to the *bank*, where he watched an airplane *bank* against a *bank* of clouds." Whereupon, the poor fellow was so dizzy that he sat down upon a nearby bench, and nearly fell off when someone told him that the original meaning of *bank* was *bench*.

This would seem silly to anyone who didn't know the Anglo-Saxon people. What we can do to the word *co-operate* is almost past telling. In Saskatchewan they have a special department of government called the Department of Co-operation and Co-operative Development, especially designed to make this word mean as many things as possible. With the help of citizens they have already got it to mean buying soap, pasturing cattle, mining coal, burying people, plowing snow, selling pigs, operating a store, selling grain, operating stockyards, sell-

Some history, together with some fact and opinion about Saskatchewan Federated Co-operatives Limited

ing fish, hatching chicks, building grain elevators, making butter, getting people well when they are sick, operating a farm, storing potatoes, selling life insurance, drilling oil wells, delivering milk, lending money to somebody you don't know, manufacturing flour, buying machinery, baking bread, and operating a trust company, as well as many other uses the Department has encouraged people to think up.

No other government in the British Commonwealth, or any other place, as far as I know, has set up a special department to cultivate the use of this one word. It is true that we have governments that specialize in words like *health*, *education*, *trade*, *agriculture*, *fisheries*, *industry*, and *resources*, but what it would do to taxes if we added special departments for words like *peace*, *good will*, *community*, *food* and *understanding*, makes one shudder to contemplate.

OF course, the government of Saskatchewan doesn't hold the original patent for making the word co-operate mean something else than merely working together. The original is sacred to the memory of a handful of poor Lancashire weavers living in Rochdale, England, before the repeal of the Corn Laws. Wages were low and the cost of living was high. They had to do something, so they each put in a shilling, and bought together, as cheaply as they could, some sugar, and bread and tea and other foodstuffs. These they laid out on some planks, in an old building away from the center of town, where they wouldn't be laughed at. This done, they each bought from the common store what they needed, or could afford, paying the full retail price, in cash. In this manner they formed the first consumers' co-operative society. Each member had one vote and no more. Each member received a modest dividend on the money he had invested for the common good. If there was any money left, it was credited to the members in proportion to the amount of goods they had bought in the little store, even though it may actually have been used to buy more groceries and other goods for sale.

The new meaning of the word took root. It grew. Today, there are two great co-operative wholesale societies, one in England and the other in Scotland,

Saskatchewan Federated Co-operatives Limited head office at Saskatoon is a well-known local landmark.



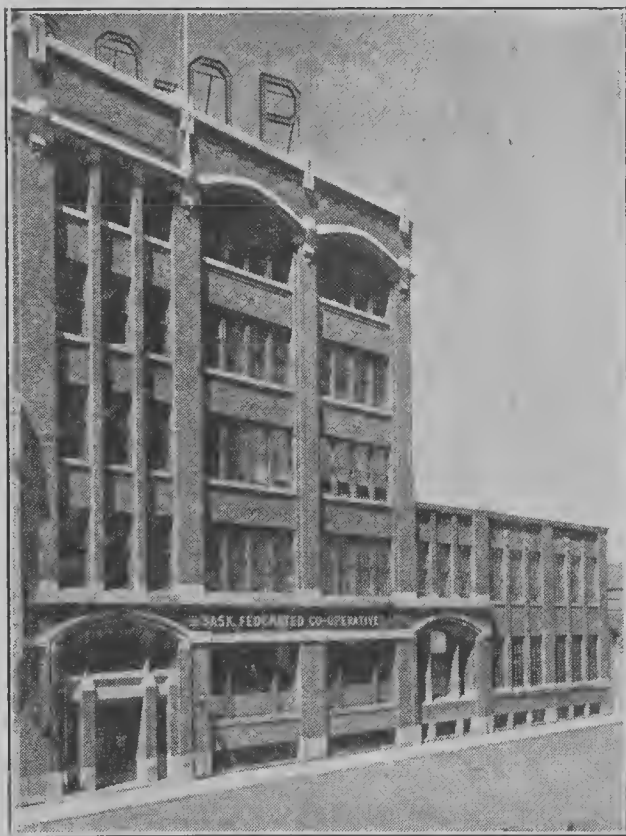
Top: The world's first co-operative refinery, Regina. Lower: Federated's Canoe, B.C., mill sold over 16 million feet of lumber in 1952.

with scores of retail stores all over Britain. All of these now stand as successors to the little store in Toad Lane. The Saskatchewan Department of Co-operation and Co-operative Development is in the direct line of descent, as are all co-operatives in Canada, which now do an annual business of a billion dollars yearly. So, also, are those of the United States, which do a business of more than eight billion dollars, and the co-operatives of many other countries as well.

Many millions of people in these countries are producers, but every individual is a consumer. The weavers of Rochdale were consumers, but, since their day, one of the earliest refinements of co-operation was a separation of producer, from consumer co-operation. Basically, the simple meaning of the word, "to work together," applies to both, but consumers buy, whereas producers must sell. Their aims are different, to the extent that the producer aims at a high price and the consumer at a low price. One hopes to effect savings at the wholesale, and the other at the retail price level.

Take Saskatchewan again, for example. In 1951, Saskatchewan producers—mostly farmers—were organized into 33 associations with 280,000 members, and marketed products worth \$253 million. In the same year, consumer co-operatives were engaged in retail business, with sales amounting to \$40 million. There is no space here to consider the reasons why, when everyone is a consumer, total co-operative consumer purchases amounted to less than one-sixth of total co-operative sales by producers. It is a fact, however, that 481 consumer co-operatives reported their business to the government in that year. These included 214 associations operating stores, and 267 associations handling bulk commodities and farm supplies. Indeed, the government has been so busy encouraging new uses for the word co-operate that now, people don't bother saying *co-operative associations* any more: they just say *co-ops*. What can one expect when, in 1950, the census year, with the population—counting babies and centenarians—standing at 831,728, there were 552,000 members of co-operatives in the province who did a combined business of \$330 million, with assets of

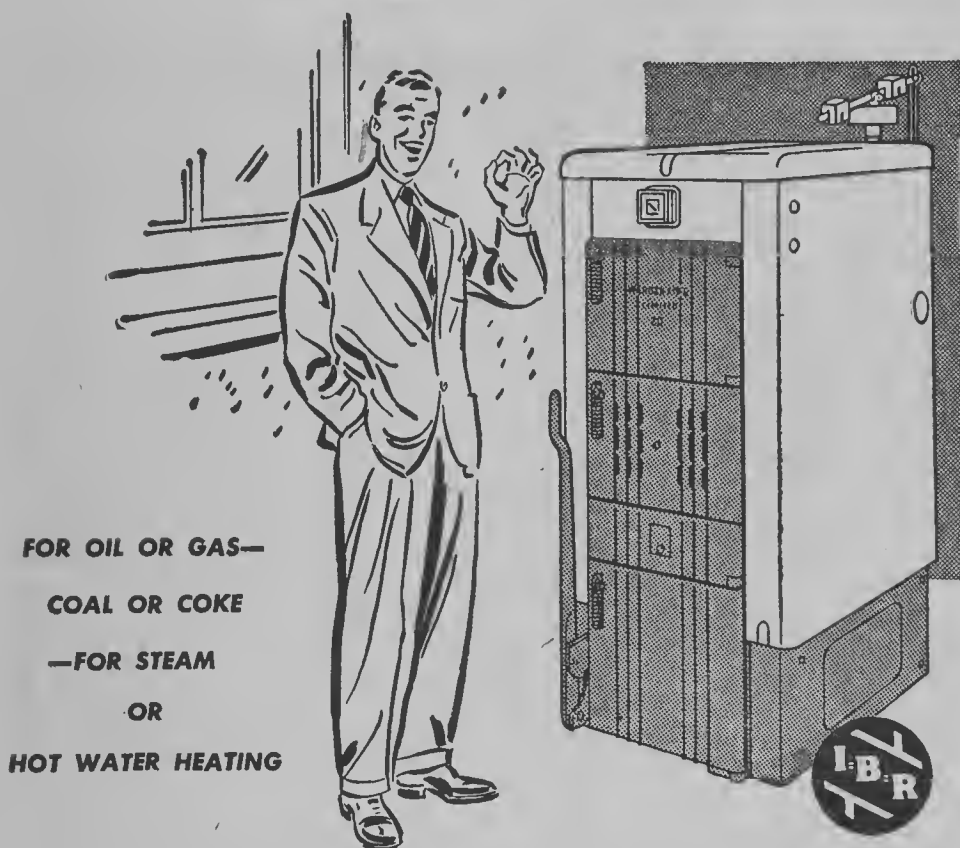
(Please turn to page 30)



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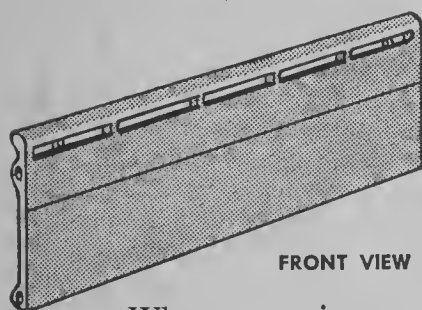


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B.C. Letter

Liquor Commission reports—natural resources tax proposed—tariffs and freight rates—successful dairy farmer

by CHAS. L. SHAW

FOR a government whose hold on office is tenuous at best, British Columbia's Social Credit administration has shown considerable daring in concocting a legislative program for the present session in Victoria. It contains such fiery ingredients as liquor law revision, further extension of the Pacific Great Eastern Railway, and new and heavier taxation on big corporations engaged in exploitation of natural resources.

In favor of the Social Crediters, it could at least be said that they were the first group that had used its power to attempt a sweeping overhaul job of British Columbia's ramshackle liquor law. For session after session, the previous government had pussyfooted on this subject, always finding some excuse to put off the unpleasant business of upsetting established liquor and beer distribution policies. The Social Crediters appointed a commission (comprising an experienced politician, H. H. Stevens, formerly minister of trade and commerce, and now president of the Vancouver Board of Trade, in addition to a widely respected churchman and a labor representative) to make a thorough investigation into the liquor situation. They have made a full report which is unsparing in its criticism of the policies followed for many years, and containing many recommendations.

As for the P.G.E. extension, no one would be so optimistic as to expect even a semblance of unanimity on this subject that has gnawed at the soul of every administration since the unhappy day when "Honest John" Oliver was obliged to pick up the foundling railroad from the doorstep, where it had been clumsily left by the contractors and promoters. And agreement as to the route is always so difficult to win. The government would also like to route the line right into Vancouver instead of having the terminus marooned at the top of Howe Sound, but again there is opposition.

In its proposed natural resources tax, which would be superimposed on other taxes paid by the forest and mining industries, the government runs head-on into the organized opposition of some of the companies which have contributed most to the prosperity and industrial expansion of B.C. When a corporation like MacMillan & Bloedel, second only to Weyerhaeuser Timber Co. in the world's forest industry, reports a net profit of \$13 million, the man in the street and the politician seeking new sources of revenue assume that here unquestionably is a fertile field for more taxation. But they sometimes overlook the fact that this whopping profit was earned on sales totalling more than \$150 million, and that the profits don't go into the pockets of a few capitalists, but help the income of thousands of shareholders. All this is debatable, of course, and the government wants to make sure that it doesn't do anything to frighten investment capital.

FRUIT growers of the Okanagan are wondering what may happen tariff wise in the U.S. under the Eisenhower administration. B.C. Tree Fruits Ltd. has less than a million

boxes of the 1952 apple crop unsold, and more than a million boxes have been sold to the U.S. Some of the off-shore markets have been reopened since the U.S. dropped its \$1.25 off-shore subsidy, and the growers hope that this unfair competition will not be revived. The United Kingdom market absorbed nothing, and may not this year either, unless the dollar situation improves. It is going to be a hard selling job any way you look at it.

Unless the railways offer some adjustment in freight rates, a larger proportion of the fruit crop in 1953 will be shipped via refrigeration trucks, according to J. B. Lander, B.C. Tree Fruits sales manager. There has been a spectacular increase in movement of the fruit pack over highways in British Columbia, especially since completion of the Hope-Princeton route to Vancouver; and a large volume has been moving to the prairies by highway, too.

Vancouver grain shippers had their biggest month in December since 1933, and it looks as though they will break last year's all-time record by at least ten million bushels. Last year's total shipment from Vancouver exceeded 100 million bushels.

FRANK RUDD, who has 37 acres under cultivation near Victoria, is being hailed as one of the country's best farmers, considering the size of his operation. Mr. Rudd has a herd of 70 dairy cows on this area and each season has a surplus of hay which he has grown himself. He grows 80 tons of mangels per acre, even though most dairymen in B.C. shy away from the toil involved in their culture. On ground where farmers have indifferent results growing alfalfa, Mr. Rudd produces 15 tons per acre in three cuttings—two for hay, a third for silage. Mr. Rudd's cows never get out to pasture. During the growing season, the grass is cut and hauled to the feed lot. A smart man is Mr. Rudd, and a tireless experimenter. When irrigation was a novelty on Vancouver Island, 16 years ago, he had installed an efficient sprinkler system, the water coming from city mains. If British Columbia had more farmers like him there would be no anxiety at all over the failure of the province to produce enough crops for its growing population.

Forty years ago, three acres of land were being farmed in British Columbia for every person. Today the figure is down to one acre per person, and at the present rate of growth there may be only half-an-acre per person in a few years. Irrigation on a liberal scale may be the answer to at least a part of the food problem. Dr. J. Lewis Robinson, of the University of B.C., says the two natural productive areas capable of tremendous expansion are the Creston Flats and the Grand Forks plain. Irrigation must come if the Kootenay country is to develop, says Dr. Robinson.

It seems inevitable that during the coming years British Columbia will hear more and more about irrigation, because that is the surest ground for hope for increased farm production in a province rapidly becoming more industrialized.

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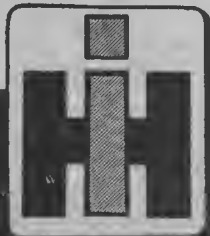
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News of Agriculture



When snow comes in winter mechanized equipment is an improvement over moving it with the all too familiar manually operated scoop shovel.

Farm Advisory Committee

PRESIDENT Dwight D. Eisenhower, whose inauguration took place on January 20, had previously appointed a 14-man interim advisory committee to advise the Secretary of Agriculture, Ezra Taft Benson, during the preliminary stages of the new Republican administration. Secretary Benson has been reported as saying that under the administration, government farm-aid programs will be limited to needs that cannot be met best by private action.

The advisory committee held a three-day meeting in January at which much time was devoted to the question of continuing the International Wheat Agreement.

Chairman of the advisory committee is Dr. W. I. Myers, dean, College of Agriculture, Cornell University, New York. Other members of the committee include representatives of the grain trade, agricultural economists, leaders of farm organizations and others. Members include John H. Davis, former executive secretary, National Council of Farmer Co-operatives Inc.; Romeo Short, vice-president, American Farm Bureau Federation; D. W. Brooks, president, National Council of Farmer Co-operatives; Chris Milius, president, Nebraska Farmers Union, and H. B. Coldwell, master, North Carolina State Grange.

Cash Farm Income in 1952

CASH income of Canadian farmers from the sale of farm products in 1952 did not quite top the all-time high of \$2,825,511,000 achieved in 1951. Last year's cash income was \$2,787,834,000. According to advance preliminary figures released January 14 by the Dominion Bureau of Statistics, PFAA payments to prairie farmers were \$5.1 million, as compared with \$13.8 million in 1951.

While the sale of grains brought cash receipts substantially higher than a year ago, participation and adjustment payments for grain were smaller and there was also a substantial decline in returns from livestock and egg sales. Ontario led all provinces with \$725,324,000, down \$68.4 million; Saskatchewan increased from \$626.6 million to \$697,480,000. Alberta also was up from \$470.3 million to \$510

million, while Manitoba declined from \$260.6 million to \$239.6 million. Quebec, the fourth in line, dropped from \$433.3 million to \$386.9 million. British Columbia cash farm income was also lower by \$10.7 million, dropping from \$119.2 million to \$108.5 million. Maritime farm cash incomes, by provinces, were \$50.5 million for New Brunswick, \$38.7 million for Nova Scotia, and \$30.5 million for Prince Edward Island.

Ontario Hog Marketing

AS of January 23, Ontario hog producers began marketing all hogs sold in the province for processing, through what is known as the Central Hog Marketing Agency, which will be operated by United Livestock Sales, Limited, under authorization of the Ontario Hog Producers Marketing Board. This Board, in turn, operates under authority of the Farm Products Marketing Act of Ontario.

It was stated by United Livestock Sales, Limited, that under marketing methods prevailing prior to January 23, approximately 90 per cent of all Ontario hogs were purchased from the farmer direct, by processing companies and smaller slaughterers operating through the medium of transport. Under this method, it was claimed, hogs arrived at the slaughterer's premises and were processed before the true, live market value could be established. This resulted in a lack of price information which created one of the major problems facing producers. Because of this problem, the Ontario Department of Agriculture conducted a survey of hog producers in Grey County, considered to be a typical hog-producing area. The results indicated that only 1.6 per cent of Grey County producers "had any understanding of the final price they would receive for their hogs prior to shipping to the slaughterers; 92.8 per cent had no understanding of price before shipping; and the remaining 5.6 per cent offered no information."

United Livestock Sales, Limited, will operate as a fully licensed and bonded brokerage house on the Ontario stockyards in Toronto, under provisions of the federal Livestock and Livestock Products Act, as well as under the rules and regulations of the Ontario Livestock Exchange. It is

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a company having, as directors, senior principals of the livestock brokerage companies previously operating at the stockyards. These companies turned over their separate hog departments to United Livestock Sales, Limited, in return for shares in the new company. The company announces that it will be able to keep farmers fully informed "as to analyses and trends, production and methods, and settlements operative through the shippers trust account system."

United Livestock Sales, Limited, will deal directly with all buyers in establishing prices, the first of which were made effective January 26. Prices at all major centers throughout Ontario are to be publicized daily. Present delivery methods by drovers, shippers or transporters, as to pick up, assembly and destination, will be continued, unless otherwise specified by the central sales board.

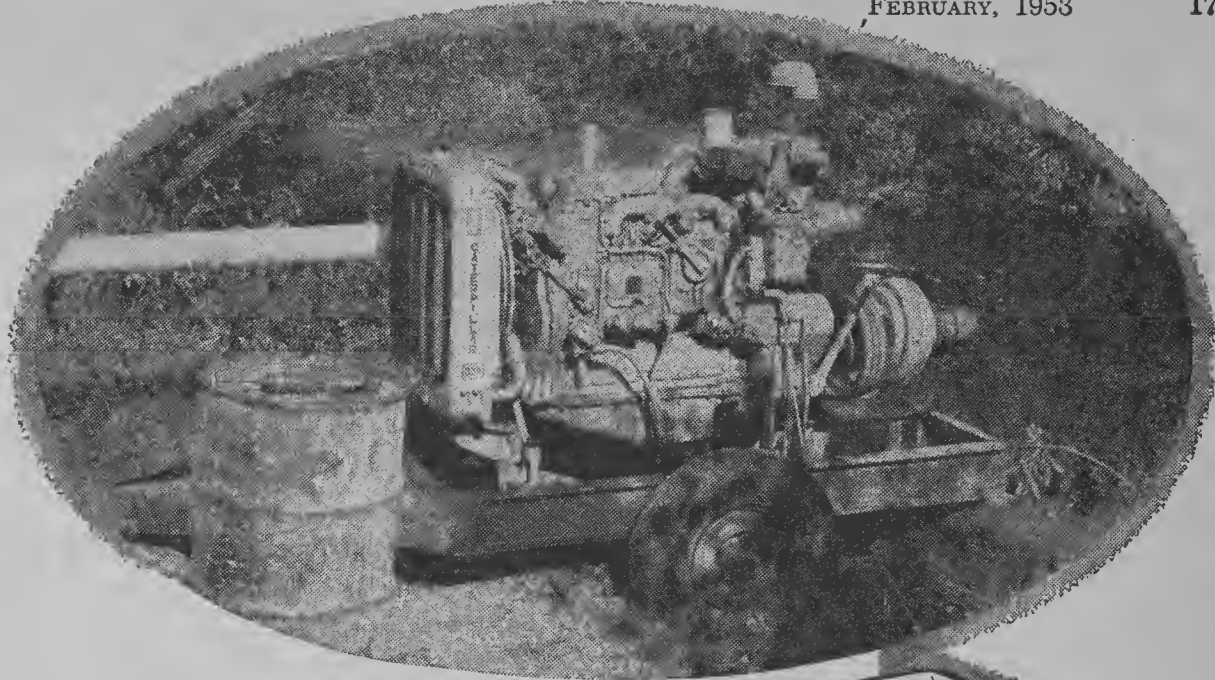
W. H. Gibson Dies

WILLIAM H. GIBSON, superintendent of the experimental farm, Indian Head, Saskatchewan, for many years, until his retirement a few years ago, and known widely across Canada by livestock men for more than 40 years, died on January 13, at Indian Head.

The late Bill Gibson deserved well of his adopted land, and especially of the livestock industry. A breeder, exhibitor and judge of Clydesdale horses, he was also keenly interested in the breeding of Shorthorn and Ayrshire cattle and Yorkshire swine.

Born near Borgue, in Kirkcudbrightshire, Scotland, he first saw Canada when he accompanied a shipment of livestock to the farm of Robert R. Ness and Sons, Burnside Farm, Howick, Quebec. Remaining in Canada, he covered the show circuit with the Ness herd in western Canada and also took it to exhibitions in the U.S. Later he enrolled as a student at Macdonald College, Quebec, graduating in 1913. After graduation, the remainder of his entire working life was spent, except for two brief periods, with the Dominion Experimental Farms Service. He left once to manage the top-flight Hereford herd at Arm River Stock Farm, Girvan, Saskatchewan; and again, to serve as superintendent of the Provincial Farm at the Oliver Mental Hospital, north of Edmonton.

At Indian Head, his principal interests were in prize-winning Clydesdale horses, good Ayrshire cattle, which were replaced in later years by excellent quality Shorthorns, and Advanced Registry Yorkshire swine. For many years he was a director, and for two years president, of the Clydesdale Horse Association of Canada, and was made an honorary life member in 1938. He was one of three chosen in 1920, by the Saskatchewan government, to visit Scotland and select two outstanding Clydesdale stallions (Bonnie Fyvie by Bonnie Buchlyvie, and Craigie Enchanter by Craigie Litigant). Many excellent stallions were used in Indian Head, the most outstanding, perhaps, being His Majesty and Radiance. The late Mr. Gibson was for many years a member of the board of directors of the Regina Winter Fair and Summer Exhibition, as well as a member of the Saskatchewan Livestock Board and the directorates of other provincial livestock associations.



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Regina, Saskatchewan

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Cat D311, and right off,
we started saving. The D311 keeps our line
pressure up even on the far end, and uses about
1/2 the fuel of the former gas engine.
We'll save the price of the D311 in fuel savings alone!"*

So reports Cat owner, J. H. Delarue

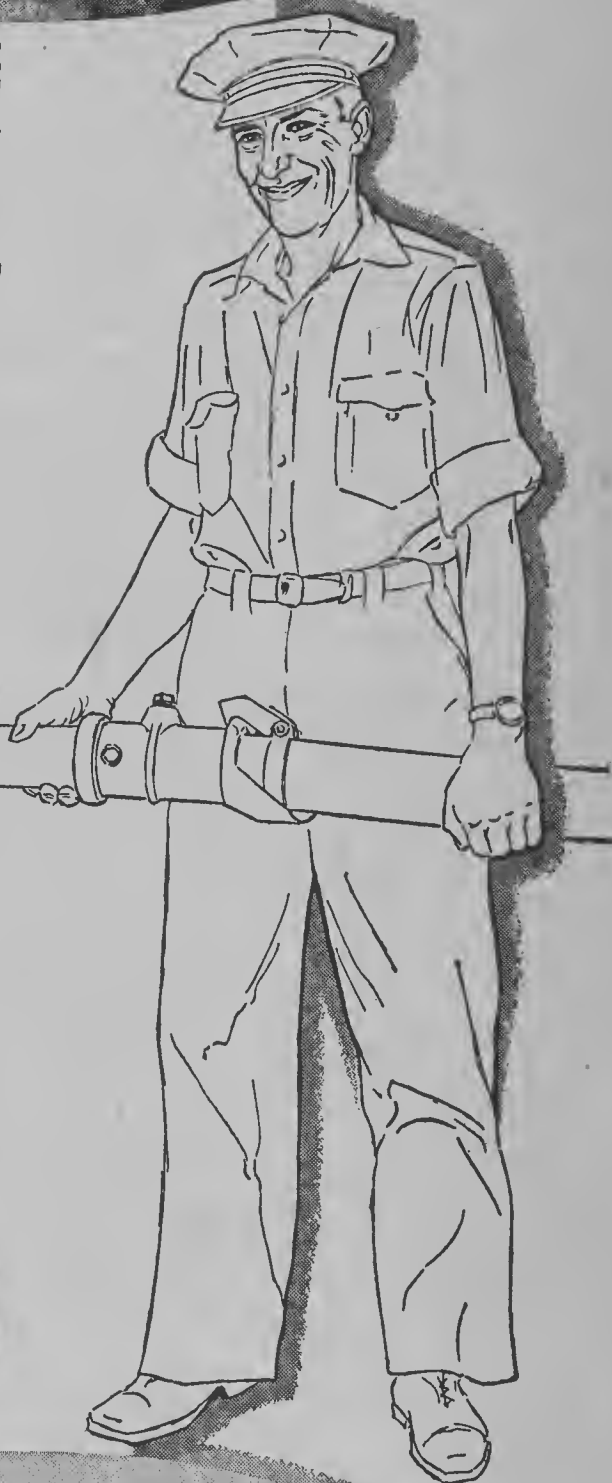
Mr. Delarue has learned what Caterpillar owners have proved for years: Cat Diesel Engines and Tractors squeeze more power from every drop of fuel. It pays *right off*... just as it pays over the years... to own Cat Diesel Power.

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A THREAT TO CANADA'S PROSPERITY

Buying Power of Dairy Farmers Reduced Sharply by Slump in Prices

MILLIONS OF DOLLARS have been slashed from the purchasing power of Canada's dairy farmers by the drop in prices received for dairy livestock and dairy products in 1952. As much as \$50,000,000 is estimated as the loss in purchasing power of these primary producers—money which, if available, would have been spent on goods and services, the products of other Canadian industries.

This is drawn to your attention because anything that affects the economic welfare of a large segment of Canada's population adversely, eventually affects the welfare of the entire people—you, your friends, your neighbours.

What Happened in 1952

Sharp price drops started early in 1952, without compensating recessions in the cost of production, thus starting the contraction in buying power. By mid-year, at the time of peak production, the average price of all farm milk had dropped by 10.2 per cent and the price of cows and calves sold for meat had tumbled more than 36 per cent. At the same time cost of production, as indicated by the index of goods and services used by farmers, instead of dropping actually rose by 5.9 per cent.

Who Has Been Affected

The first group to feel the effect of this income recession is the 1,820,000 persons on Canada's 455,000 dairy farms. These primary producers, together with 460,000 persons such as hired farm workers, dairy factory and milk distributing plant employees and others directly associated with the industry constitute one-sixth of all Canadians, and their industry ranks third among Canadian industries.

Canada's dairy farmers, by milking cows 365 days in the year, early in the morning and late in the day, produce more than 16,000,000,000 pounds of milk in a year. In 1951, the cash income from milk sold off the farms was \$373,611,000. Dairy cows and calves sold for breeding and meat purposes are estimated to have brought the cash income from dairy herds to a total of \$475,000,000.

How Producer Groups Feel the Pinch

Farm milk prices, already low in relation to other foods, began to sag in March and continued downward through the peak production period of the spring and early summer. Throughout this period cost of production continued upward. Some groups of producers were hit harder by price drops than others, depending on their market. Only the producers selling on the fluid milk market escaped price setbacks. The price of their milk, which accounts for 26 per cent of production, increased by 6.1%, the rise barely keeping pace with increased production costs.

Thirty-six per cent of all milk produced in Canada is sold for creamery butter production—the price of this milk dropped 10.3% from the average for 1951. Eight per cent of the milk is sold for manufacture into evaporated and powdered forms—milk for this purpose slumped 16.2%. Nearly 7 per cent of the dairy farmers' product goes into dairy butter where prices dropped 5.6 per cent. A similar amount goes into cheese—cheese milk slumped 34.7% then recovered about one-half of the price loss in late months of the year. The balance of the milk produced is used on the farm for livestock feeding and household purposes.

How Consumers May Be Affected

Canada's farmers, through lower food prices, are carrying the burden of the decline in the cost of living index, that has been reported in recent months by the Dominion Bureau of Statistics. Unless declines in living costs are shared by all forms of production and services, sharp changes in volume of production are bound to take place.

Present availability of dairy foods is largely responsible for Canada's high standard of nutrition because milk is a low-cost source of protein, vital minerals and vitamins. This can continue only so long as dairy production is on a scale that ensures continuity of supply for the people of Canada.

How Employment May Be Affected

More immediate than the effect of prices on supply, is the effect on employment. The dairy farmer is a major market for both producer and consumer goods. When he is forced to curtail his purchases through loss in income, the market for a wide range of goods and services is curtailed. This leads to unemployment of, or loss of income to, persons in practically every walk of life. Few can escape the impact of a sharp and wide-spread loss of net income by a group as large as Canada's producers of dairy products.

DAIRY FARMERS OF CANADA

409 HURON STREET

TORONTO

Get It at a Glance

U.S. meat production—Dutch farms—California
co-operatives—raising sugar beets—land reform

THE Canadian Wheat Board announced in January that R. V. Viddulph, European commissioner of the Board, with headquarters in London, England, who has occupied this position since the fall of 1936, retired on pension at the end of January. He will be succeeded by J. B. Lawrie, one time associated with the Alberta Wheat Pool, and for the past two years, with Mr. Viddulph.

MORE than 40,000 acres of land, mostly reclaimed, has been seeded to forage crops by the Conservation and Development Branch of the Saskatchewan Department of Agriculture, to date. Of this amount, nearly 8,000 acres were treated between April 1 and September 30, 1952.

THE U.S. census of 1950 revealed that Iowa farmers have the highest level of farm living, followed by Connecticut, New Jersey and California. Mississippi, on the other hand, has the lowest index of farm level of living, Alabama, Arkansas and South Carolina being next lowest, respectively.

A NEW museum of English country life, the only national effort of its kind, is being developed at Reading University, to collect and preserve interesting relics of the past. It is suitably installed in an old country house situated in 300 acres of park and meadow land.

IN the Netherlands (Holland) there are only 9,264 square miles of cultivable land, approximately equal to a strip 46 miles wide, stretching between Calgary and Edmonton, or between Saskatoon and Regina. Four persons must live on each 2.5 acres. About 5,000 acres are annually reclaimed from the sea. Each year the Netherlands farmer puts 45 pounds of nitrogen, 45 pounds of superphosphate, and 45 pounds of potash into each acre of his land.

AT the famous Smithfield Show, held at Earls Court, London, in December, the supreme champion steer was a two-year-old Angus-Shorthorn cross-bred which sold at auction for a record price, in Britain, of £1,200 for a fat animal.

THE first seeding of 1953 was undoubtedly done by H. A. Suni, Foremost, Alberta, who on New Year's Day sowed 30 acres to yellow mustard, according to report. The temperature was 41 degrees above zero.

TOTAL meat production in the U.S. in 1953 is expected to be moderately above last year, and perhaps reach a record high peacetime level. This is due to expected increases in cattle slaughterings. U.S. cattle numbers increased from 77 million in January, 1949, to approximately 93 million at the beginning of January this year.

NO Dutch cheese can be exported from the Netherlands without a "birth certificate," which is a government control mark imprinted on each cheese during the process of manufacture. About 5,000 farms today make Gouda and Edam cheese in Holland.

IN 1952, United States farms had 4,170,000 tractors, 2,410,000 trucks and 887,000 grain combines. In 1951, they expended \$3,484 million on farm equipment.

SINCE 1950, under the inspiration of the United Nations, Italy has distributed 265,000 acres of land to needy farm families, and has 650,000 more acres for redistribution. In Japan, 4,630,000 acres have been acquired and resold since 1946.

THE world wheat crop for the crop year 1952-53 has been estimated at 7,235 million bushels, which compares with the previous record of 6,610 million in 1938-39.

EARLY in January "Frank" retired at the age of 18. He is a chestnut gelding and was the last horse to be engaged in Canadian National Express service. He lived at Melfort, and has consented to spend his remaining days on a nearby farm, on the strength of a promise that he will never be hitched to a plow, or asked to do heavy work.

IF all the grain handled by the Canadian National Railways during the year 1952 were consolidated into one trainload, it would contain 176,258 boxcars, stretch for 1,335 miles, and carry 339,440,000 bushels.

ALBERTA, Manitoba, Ontario and Quebec are the four sugar-beet-growing provinces in Canada. Together, they produced beets enough to make 297,000,000 pounds of sugar, of which, in 1952, Alberta produced 141,000,000 pounds; Ontario, 96.5 million pounds; Manitoba, 36 million pounds, and Quebec, 24 million pounds.

IN Queensland, Australia, there is a shire named Chinchilla, which is said to be, in effect, a memorial to an insect. The insect, named cactoblastis, was introduced in 1926-27 as a parasite on prickly pear, which had become a nightmare to the settlers; 2.5 million cactoblastis eggs were released and achieved what has been described as a spectacular success.

CALIFORNIA co-operatives, in 1950-51, did \$700.6 million worth of business, or more than in any other state in the Union. Next came Minnesota with business estimated at \$607.3 million, followed by Indiana, with \$586.6 million.

THERE are now 28 countries who have membership in the International Federation of Agricultural Producers. Seven other countries have applied for membership. The sixth general conference will be held in Rome this year, beginning on June 6.

SIXTY per cent of the world's population would live mainly on rice, if they could get it. Average yearly production between 1934-38 was 144,800,000 tons. It is now in the neighborhood of 140 million tons. The population of India is increasing by about five million per year, and of Japan, by about 1.8 million per year.

Fordson Major leads in VALUE



The sensational New Fordson Major brings to Canadian farmers the latest advancements in power farming at hundreds of dollars less than you would expect to pay for a tractor in its power class. Combining efficiency, economy and extra features at exceptionally low cost the New Fordson Major offers value far above the price.

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Quantity produced to highest standards of quality construction and workmanship, and priced to reflect current devaluation of the £ Sterling, the New Fordson Major is an outstanding buy. You owe it to yourself to see . . . and compare the sensational New Fordson Major!

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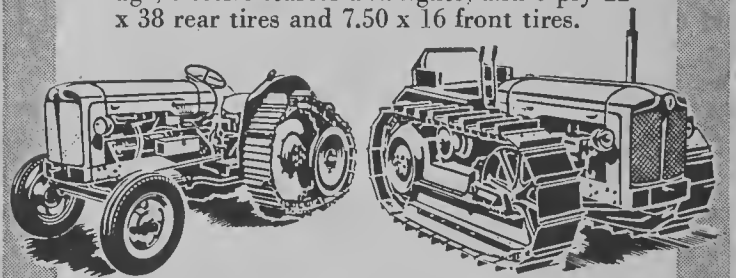
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Fully equipped with hydraulic lift and linkage, electric starter and lights, and 6-ply 11 x 38 rear tires and 7.50 x 16 front tires.



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Grower Alarm

B.C. loganberry and grape growers fear competition from California wines

by EDWARD STUART

LOGANBERRY growers on Vancouver Island, and grape growers in the Okanagan Valley, are today supplying 100 per cent of the fruit used in wine made by British Columbia wineries. Unfortunately, they are now facing possible loss of the domestic market by entry of California wine.

Following a recent plebiscite, this province may soon be permitting the sale of all liquors by the glass. California wineries, because of heavy grape crops, added to a decrease in domestic wine consumption, are apparently anxious to enter the B.C. market. They sparked their campaign some months ago by briefs sent to various chambers of commerce. Recently, prospective distributors have made representation to the B.C. Liquor Enquiry Commission, under the chairmanship of a well-known Canadian, Harry H. Stevens, which recently made its report to the government. The entry of California wine has received strong support from B.C.'s metropolitan press.

B.C. farmers are effectively opposing this move, by drawing to the attention of the government the fact that out of \$60 million liquor sales in B.C., only \$1.7 million are wine sales. A considerable portion of these wine sales are high-priced European wines—wines that cannot be duplicated by domestic production. On the lower-priced wines that make up the larger portion of wine sales, B.C. wines already have to share the market with wines from Australia, South Africa and Ontario.

The two Commonwealth nations, Australia and South Africa, have an agreement not to ship the wine into each other's country, but no such agreement was made with Canada. Australian wine enters Canada at a tariff of 52½ cents per gallon, whereas, if we wished to ship our wine to Australia, we would be faced with a tariff of \$1.77 per gallon.

Of even more importance to the grower is the fact that California wine would face a tariff coming into B.C. of only \$1.03 per gallon, whereas, if B.C. wine wished to invade the United States, it would be blocked by a \$2.77-per-gallon tariff.

The prospective loss of a portion of their domestic market is vital to the loganberry growers who, at a cost of \$2,000 per acre, have planted this juicy berry, combining as it does the best in flavor from its parents the bramble and the raspberry. It does not lend itself to the fresh fruit market, because it is not adaptable to long distance transportation.

The Okanagan grape growers are up against a like problem, in that their grapes are of a wine variety, which would not be suitable for the fresh fruit market.

The growers have presented their case to the attorney-general, and to the Liquor Enquiry Commission, asking that the government do not allow the sale of a foreign product which gives no additional benefit to the consumer of wine, but only destroys the life savings and earning power of its primary producers.

LIVESTOCK

Which Steers Are the Best?

Do cattle feeders make more money with small, tidy little beasts or with big rugged ones?

BEEF men are divided into two camps on the thorny question of size and type in cattle. Some believe it's the small, tidy little beast, cutting handy-sized roasts for today's market, that should be the foundation stock of today's breeders. Others claim adamantly that these "vest-pocket-sized" bulls are stealing dollars from the pockets of every beef man. They insist that it is the big rugged ones that make pounds of beef economically.

There is one point on which they all agree, nevertheless. The cattle that make the most money for the man raising them, are the kind they want.

That's why beef cattle men, within reach of Lethbridge, won't want to miss the field day to be held at the Lethbridge Experimental Station this summer. They might find an answer at that meeting.

Forty young bulls are now on test at Lethbridge to determine the ability of individuals to make use of feed and, as well, to determine the most suitable type of rations for making beef.

Herefords, Shorthorns and Aberdeen-Angus, selected from among Alberta's finest herds, have been weighed-in at the station. They have been judged and placed, according to show standards, and have been divided into four groups of ten each. One calf in each group is from the same sire.

Each group receives a different type of ration. With ten calves from different sires receiving the same ration,



This big rangy Hereford bull was a champion at shows in England 100 years ago.

Calf No. 6 gained 465 pounds at a feed cost of \$102. To make equal gains, calf No. 10 ate \$168 worth of feed.

Both these calves were sired by supposedly good bulls. It's easy to see that if a calf such as the first one made a very little money for its owner, the second one would eat its way into a sizeable debt.

If the second one were to make a profit by changing feed into beef, the first one would make a much bigger one. There is no doubt about it, different steers do vastly different jobs on the range and in the feedlot.

That is why a better method than the show ring is needed to evaluate beef cattle breeding stock. Examination of steers at the Lethbridge field day may provide the searching stockman with an indication of what that method might be.

There Is a Place for Livestock

WITH the biggest wheat crop ever grown in western Canada, turning the eyes of marvelling Canadians and eager buyers to prairie wheat-fields this year, the manager of a public stockyard suggested recently that the livestock industry, too, is well worth remembering.

"It is an unrecognized giant in our midst," he stated, and drew from his desk figures to show that men selling livestock through his yards took back to their farms over \$60,000,000 in 1952.

"Why, in Alberta alone, livestock sales were higher in dollar value than both oil and coal sales. Wheat is big business here, but it is a shortsighted man who underestimates the value of cattle and hogs and sheep to western farmers. Producing meat and milk has developed into a gigantic industry, though it hasn't got full credit for it yet."

These comments were intriguing enough to result in a search for figures showing comparative values of livestock and wheat to western farmers. During the first six months of 1952, the sale of livestock products brought \$153,000,000 into farm homes while the sale of wheat brought back \$277,000,000.

Last year wasn't a good year for livestock, yet during the first six months, they earned 55 cents for western farmers for every \$1.00 wheat earned.

The cash figure for livestock didn't



Thick, meaty and rugged, this bull was a champion at the Royal Winter Fair in 1952.

it will be possible to measure the importance of heredity on economy of gain. With each four calves from the same sire receiving different rations, the effect of ration can be observed.

By May or June, these youngsters will have grown from their starting weights of 400 or 500 pounds to a meaty 900 pounds.

An indication of what to expect at the field day may be secured by glancing at testing work already completed in Ontario. Thirty steers have gone through the testing station there. The feed eaten by each was measured.

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GILLETT'S
100% PURE
LYE



IMPORTANT AID TO LIVESTOCK FARMERS

There are so many jobs that lye does well and cheaply on livestock farms that most hog and cattle raisers make wide use of this low-cost aid to herd health. For general cleaning of barns, stables and houses, lye is unequalled. A solution of 2 tablespoons of Gillett's Lye per gallon of water is a powerful cleanser and sanitizing agent. Not only does it remove heavy grease and dirt quickly, but also kills many viruses, germs and bacteria which carry cattle and hog diseases. Simply remove loose dirt with a shovel, then scrub with a stiff brush and lye solution.

Disinfectants Work Better

In some instances of disease a specific disinfectant may be recommended. Yet, however powerful—and costly—such a disinfectant may be, it cannot kill unless it contacts the germs or parasites in question; and they are usually protected by grease and dirt. Lye cleaning removes this protective coating and permits disinfectants to operate efficiently.

Slaughter Houses

Lye is a great help in cleaning the slaughter house. Before swabbing down the floors, dissolve 3 tablespoons of Gillett's Lye in each gallon of water. This solution will greatly speed the removal of blood, dirt and other matter. It also deodorizes and sanitizes. It enables a single solution to be used for the complete cleansing job.

GLF-83

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100% PURE
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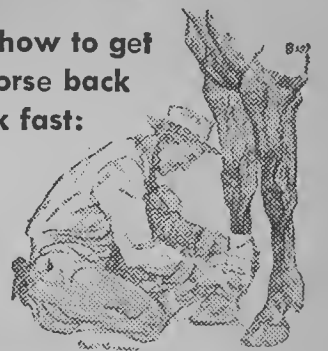
• 825 Herefords
• 200 Shorthorns
• 175 Aberdeen-Angus

Write now for Sale Catalogue direct to
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WINDGALL?

Here's how to get your horse back to work fast:



"In 40 years of farming, I've always used Absorbine for my horses. I've found it quickly relieves strains and soreness from windgall," says Gustave Trautman of Milton, N. Y.

There's nothing like Absorbine for lameness due to windgall, sore shoulder, similar congestive troubles. Not a "cure-all," but a time-proved help... used by many veterinarians. A stand-by over 50 years, it will not blister or remove hair. Only \$2.50 at all druggists.

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For HORSES—HOGS—POULTRY—CATTLE
Simply mix a spoonful of
"P.H." POWDER in feed twice weekly
No Pills—No Capsules—No Serum
Made by Perry & Hope Ltd., Glasgow, Scotland.
1½ lbs., \$2.25; 3½ lbs., \$4.50; 7 lbs., \$7.50;
28 lbs., \$22.75; 112 lbs., \$69.75 postpaid.
P. H. LIVESTOCK CONDITIONER CO., Winnipeg
Write for names of satisfied users.

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For over twenty-five years, Western farmers have acclaimed Betalasses as the greatest conditioner, fattener and health-producing ration they have ever used. This year, there is more Betalasses than ever before—and your share can be secured through your feed dealer, or direct from the factory. Start using it now for greatest profits, healthiest stock!



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SHEEP
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WHIP RISING COSTS with a **CASE** Tractor



Here's one of the most popular tractors in Canada, liked for its low operating cost and lowest delivered price in its power range. It's the big 3-furrow high-clearance Model "DC-4," here shown at Rolla, B. C., Lucas Delainey driving.

Making best use of limited soil moisture by even covering and packing, Case Seed-meter Press Drill gets crop off to flying start. Famous Case Seed-meter sows all furrows the same at whatever rate you set. This money-making accuracy lasts for years.

There are only two ways for Prairie Province farmers to increase their income: (1) Cut costs; (2) Boost production per man and per hour. Case Tractors and implements help you do both. Here's how:

Case Tractors keep fuel costs down two ways: (1) They make thrifty use of fuel. This fuel economy lasts long years and is easily renewed with replaceable sleeves and matched pistons. (2) Case Tractors perform splendidly on a wide range of fuels—may be equipped for the low-cost tractor fuels, for engine-saving propane, or for gasoline.

Case Tractors and implements alike have operational advantages that help you cover extra acres every day—producing more per hour, cutting labor costs per acre. And remember—all Case equipment is built to work many long years with low repair expense.



"Runs like a charm," says Bruce Galbraith of his 13-year-old Model "L" Tractor. Shown here with the tractor and Case dealer Lloyd Dahl of Raymond, Alta., Bruce reports very little trouble with his old tractor. Today's mighty 4-5 plow Model "LA" is still better.

Save money by doing your lighter work with a full 2-furrow Case "S" Series Tractor like the "SC" shown with B. V. Heninger at the wheel. Or use a 2-furrow Case "VA" Series Tractor for economy with still lower investment. Every big farm or ranch needs at least two tractors.



"Champion of Plows" is what they call the Case Centennial because so many contest plowmen prefer it. High clearance, easy adjustment, rolling landside, and extra polishing make it a champion on the farm as well as at the contest.

Famed for low per-acre costs, the big 4-5 plow Case Model "LA" has long made money for Prairie Province owners. Shown here factory-fitted with LP-Gas fuel equipment for still lower fuel costs, still longer engine life.



Case builds 25 great tractors, a full line of combines and other farm equipment. Visit your Case dealer soon—pick up catalogs on the machines that interest you. Arrange with him for a personal demonstration of Case power and performance. But first, mail the coupon below.

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For catalog or pictorial folder, mark here or write in margin any size tractor or farm machine you need. Mail to J. I. Case Co., Dept. CG-2, Calgary, Edmonton, Regina, Winnipeg, Saskatoon, London, Toronto, Montreal.

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| <input type="checkbox"/> 4-5 plow "LA" Tractor | <input type="checkbox"/> Low-cost 2-furrow "VA" |
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include the value of manure left over for the land on every livestock farm, nor the extra bushels of barley, or tons of hay grown, on lands fertilized with it.

It doesn't acknowledge the fact that many of these dollars are "free" dollars coming from acres of grass that could never be used without livestock. It doesn't consider that livestock usually means ready cash throughout the year, as surplus stock is sold or as the milk cheque makes its regular way to the farm.

Apparently the true value of livestock could be easily overlooked in such a successful wheat year, especially now when shrewd livestock people are cutting hours of labor from the daily chores of feeding and milking and cleaning the stables.

It is still the long hours of labor required by livestock that keeps them off many farms, and dairy cattle are traditionally the ones that keep a livestockman busy the year round.

Now with labor so scarce, Manitoba's dairy commissioner, C. P. Killick, points out that success with milking cows depends on a well-thought-out plan to keep the cattle happy and the milk pails full, with as little work as possible.

He suggests that wintertime is a good time to plan easier and better ways of producing milk, and lists a few urgent points to consider.

1. Labor—more mechanization is the only solution to a tough labor problem now. That means milking machines, manure loaders and spreaders, loafing pens and well-laid-out stables that save steps at every chore-time.

2. More milk from every cow, especially from older cows. Good dairy cows are priced high now, and they aren't worth as much sold for beef as they were a few months ago. The longer a good cow lives and milks, the more money she makes for the dairyman.

3. More dollars from every acre. Plan to have plenty of pasture and rotate your grazing herd from field to field. They will not tramp it and graze it too closely that way. Pastures will last longer with a little extra care.

4. Good roughage is the cheapest feed. If poor hay must be supplemented with extra concentrates, costs will be higher. The milk and cream, however, will still sell for the same price.

5. The fresh taste of clean milk brings customers back for more. Be sure the milk that leaves your farm is fresh and clean.

Do Cattle Need Antibiotics?

IN the meteoric rise to prominence of antibiotics, chickens and turkeys fed these drugs have been rushed to market weight faster than ever before. At the same time, these birds often ate less feed to gain the same total weight, than was possible before "miracle" drugs were used in their feed. Hog producers, too, have made good use of antibiotics, bringing young pigs through the treacherous early days of life without a sign of scours, and raising litters that grow rapidly, evenly, and without the sad picture of one or two "runts" left over when the other fast-growing pigs have been shipped to market.

The drugs haven't yet paid off as well for cattlemen, who are still finding that a good ration is not often improved by antibiotics. The Univer-

sity of Wisconsin reports recent tests which show that they are of no value in getting hard-to-settle cows with calf. After tests on 57 cows previously bred unsuccessfully at least four times, there were no useful results to be attributed to antibiotics.

Their use for young calves is not a great deal more successful, for there again, these youngsters that should be eating hay and grain are more dependent on good care, without special drugs, than on a miracle treatment.

Experiments at the Central Experimental Farm, Ottawa, in which calves that were normally well-cared for and healthy, were fed antibiotics, showed no benefits from the addition to the rations. It is pointed out, though, that when calves do suffer a digestive upset, antibiotics can be useful in bringing them back to good health again.

How Do You Raise Calves?

BEEF cattlemen from Great Britain, the island we often call "the birthplace of our breeds," have often said that raising cattle is more of an art than a science.

Any farmer with a half-grown young son eagerly interested in the calves and pigs, can well believe it. It is likely that such a fortunate father has seen his young son pamper and feed and care for the young calves, and given a little guidance to overcome his lack of experience, finish with the healthiest calves ever raised on the farm.

There are a few practices that, knowingly or not, go into the job of raising calves, and deserve a large share of the credit for the thrill the young lad got as the calves grew and thrived. They are practiced by every master stockman, and can well be used in every cattle stable.

How many are you making common practice with your herd?

The gutter is a poor spot for any calf to begin its life. Far better have the cow in a disinfected, well-bedded box stall for freshening.

The navel of the new-born calf is an ideal spot for infection to start. It can easily be treated with a mild solution of iodine, a solution mild enough that it will not burn the tender young tissues.

Colostrum, or the dam's first milk, is the food intended for every new-born calf. A healthy calf should be on its feet an hour after birth, and the sooner it nurses, the better chance it will have to be healthy and get off to a good start.

Dirty or unwashed utensils will mean germs, and infection of the calf's delicate stomach.

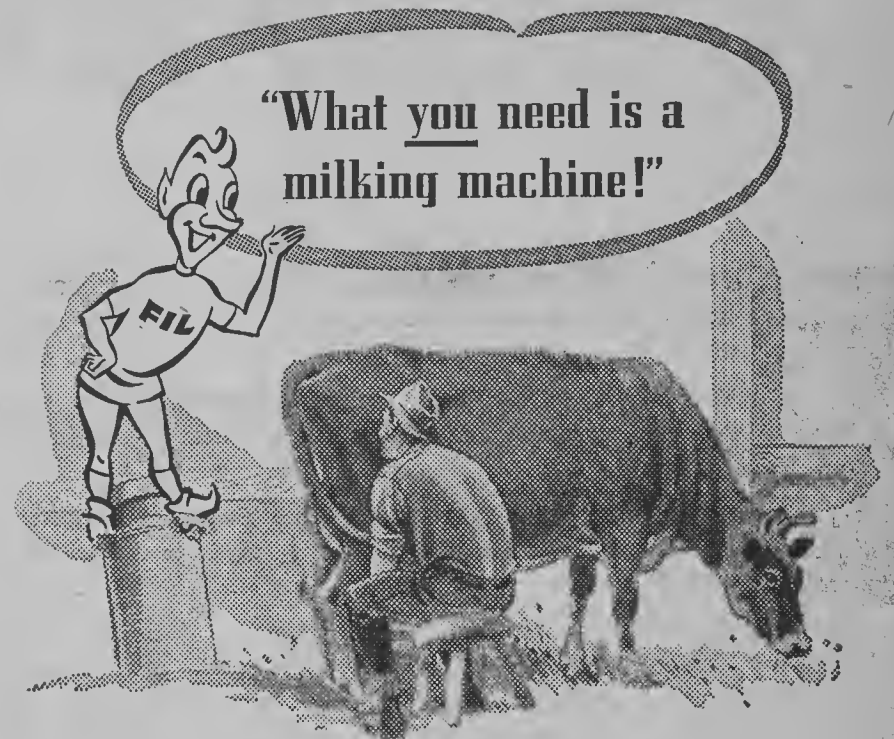
If a calf is to be pail-fed, it still should be given whole milk for the first three weeks. Many insist that three weeks are not enough.

A fresh wisp of good hay daily will encourage the calf to start nibbling in two or three weeks.

Save the Orphan Pigs

AN ever-recurring question confronts farmers at farrowing time. Should orphan pigs be saved?

The problem might be solved before it ever presents itself, by the swine raiser who farrows several sows together. Then, young pigs from a sow that has gone off milk, may be divided among the sound milking sows. When adding orphan or strange pigs to a brood sow, sprinkle a mild



Credit for the purchase of milking machines and many other time-saving improvements can often be obtained through **Farm Improvement Loans**.



If you need farm machinery to speed your production, why not inquire about a **Farm Improvement Loan** at your nearest B of M branch.

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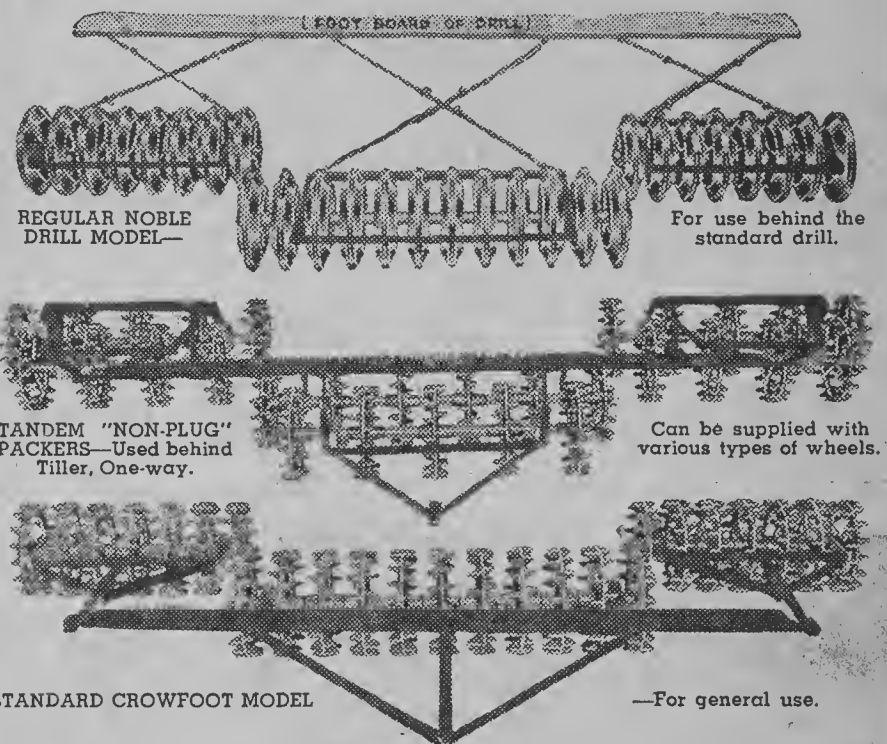
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with the double-duty antibiotic

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Less mastitis . . . more milk . . . more dairy profits! That's the aim of every dairyman, and thousands of them are achieving it by using AUREOMYCIN Crystalline OINTMENT Lederle in a two-way protection and treatment method.

WHEN MASTITIS STRIKES, infuse a tube of VETERINARY AUREOMYCIN Crystalline OINTMENT Lederle into an infected quarter. It's fast-acting, long-acting, highly effective!

BEFORE MASTITIS STRIKES, treat cuts and other wounds or injuries of teats or udder with this same antibiotic, by local application and infusion, to guard against mastitis.

Keep a supply of AUREOMYCIN OINTMENT tubes always on hand. Treat mastitis quickly and effectively — *before* it strikes, *when* it strikes! Enjoy bigger milk checks!

In cases of acute septic mastitis, in addition to udder infusion, the injectable form of SULMET* Sodium Sulfamethazine** Lederle should be used. Subsequent treatment may be conducted with SULMET Sulfamethazine OBLETS* Veterinary TABLETS. VETERINARY AUREOMYCIN Crystalline INTRAVENOUS** Lederle may be used in the treatment of severe acute septicemia as a highly effective agent against most bacteria.

For best management practices and disease-control procedures for avoidance of mastitis, consult your veterinarian. Write for folder on AUREOMYCIN OINTMENT.

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Today's intensive farming...with its high-yielding crops and heavy residues takes a heavyweight harrow. It takes weight to slice through these larger stalks, bigger roots, more plants per acre...to bury the trash, pulverize and mix the soil.

The new heavyweight 11-B Double-Action Disc Harrow is made to order for such *tough* discing. Performance will prove it in any field of heavy corn or cotton stalks.

Here is a disc harrow with all the modern features you want...plus strength, ruggedness, instant penetration, and uniform work. Rear gangs trail around turns without gouging. Sizes to fit your power — 5½-, 6-, 7-, and 8-foot. Order now from your A-C dealer.

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disinfectant solution over all the pigs. This will make it difficult for the sow to smell the new additions.

However, if sows are not available, orphan pigs may be raised on cow's milk. This means extra work, because they should be fed every three hours, or five or six times daily, until they are three weeks old. Then, the number of feedings may be gradually reduced to three per day.

Frequent and regular feeding of small amounts of milk, when starting the pigs, is the secret of success.

Nursing bottles and nipples may be used in a pig nursing bottle rack. A diagram for the construction of this rack may be obtained in Alberta from your district agriculturist's office, or from the Extension Service, Alberta Department of Agriculture, Edmonton.

A young pig may be taught to drink sweet, fresh milk from a dish, if a little patience is used. Push its snout into the milk for short intervals, but be careful not to smother the pig. Give clean milk at each feeding and keep feeding utensils clean.

Use only fresh, sweet milk at blood temperature, and see that bottles and nipples are kept clean. When the pigs are three to four weeks old, gradually substitute sweet skim milk for the whole milk.

Hull-less, or cracked, oats, with the hulls sifted out, freshly boiled barley, or wheat, with some sweet milk, should be offered the pigs at two or three weeks. With fresh water available at all times, and the pigs reasonably warm, dry, and well-bedded, they should grow into money-making hogs.

Four Difficulties

S. B. STOTHERS, secretary of the Canadian Swine Breeders' Association, heard a speaker suggest recently that "there are three very difficult things in this world: first, to make a good speech; second, to climb a board fence that is leaning toward you; and third, to spark a girl leaning away from you." Mr. Stothers added a fourth: "to determine the proper course for swine producers to follow in the immediate future."

Hogs Do Waste Feed

WHAT is the biggest waste on Canadian farms today?

That question would be difficult to answer, but there is one operation that

loses Canadian livestockmen a lot of money every year. Feeding several pounds of grain worth three or four cents a pound to livestock that turn it into a pound of lard worth less than half the cost of the grain could hardly be considered a paying business. Yet many fat hogs are being fed expensive rations, only to produce excess cheap lard.

A glance through hog-grading figures of the Canada Department of Agriculture shows that about 30 per cent of hogs graded, cut out an A-Grade carcass. It is safe to say that most of these hogs are profit makers.

There is another group numbering over 40 per cent of the hogs graded, which goes into the B-1 Grade. Three-quarters of the B-1 hogs are dropped into that lower grade because they are too fat.

There was a time when lard was needed by housewives for cooking, and it was well worthwhile to produce it. That has all changed now. Vegetable oils are cheaper, just as useful, and lard has dropped in price until it sells for less than half the price of the feed used to produce it.

Still, many Canadian hog producers are busily putting fat onto hogs, just to have the packing plant cut it off again. Cutting off fat is one of the big jobs of packing houses, and fortunately, it can be removed from cuts like the loin and back. With others, such as the shoulder and ham, little can be taken off because the fat is between the muscles. Such overfat cuts are worth less in stores, where customers dig through the pile of hams or shoulders, looking for the lean one to take home. The most common complaint of Canadian housewives about their breakfast bacon is that it is too fat.

Farmers with an eye to the American corn belt, where thousands of rapidly growing hogs are finished, fat and sleek, on corn alone, are suspicious that lean bacon-type hogs are not as economical to raise as fat ones.

"Lean hogs are hard doers," they suggest. Yet tests at hog feeding stations of the Canada Department of Agriculture show it is not the lean ones that are hard doers; it is the fat ones that take the extra feed for every 100 pounds of gain they make.



Winter is the time to plan methods of milk production that will mean less work and more milk from your dairy herd.

new 1953 Meteor.



White sidewall tires and chrome wheel trim rings optional at extra cost.



Meteor's amazing new "Wonder Ride" brings you an entirely new sensation in smooth, floating motion over all types of roads. Dotted line shows ordinary car reaction to shock.

miles ahead WITH a new "Wonder Ride"

**more of
everything...
most for you!**

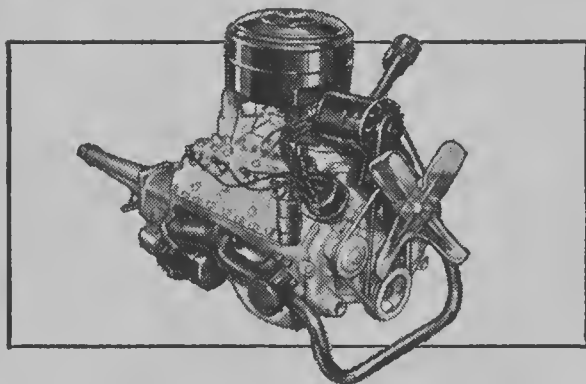
More than ever . . . '53 Meteor is *miles ahead* in the low price field. *Miles ahead* with advanced styling, new features, luxurious new "tone-blended" colour combinations. And now with an exciting new "Wonder Ride." Only Meteor offers three distinctive series—two great V-8's by the world's largest builder of V-8 engines—two instrument panels. Meteor offers more of everything . . . *most for you!*

3-WAY CHOICE IN TRANSMISSIONS: *Merc-O-Matic Drive, Touch-O-Matic Overdrive (both optional at extra cost) or Standard Transmission.*

Be miles ahead with '53 meteor!



"WRAP-AROUND" REAR WINDOW is typical of the new '53 Meteor's elegant body styling.



120 HP. "FURY" V-8 ENGINE featured in all Meteor Customline and Crestline models.



EASY-ACTION PENDANT PEDALS for smooth, effortless operation of clutch and brakes.



FOR YOUR "Wonder Ride" see your meteor dealer

KRAUSE K-3 One-Way



The Krause K-3 One-Way and the Krause Chisel-Tiller . . . the most rugged and efficient drag plows you can imagine . . . are ideal companion tillage tools for your land. They improve your land and conserve your soil wherever it is . . . and increase your yields, whatever your crop!

...a great tillage team

YOU'LL SAVE SOIL by using this great Krause team to do stubble-mulching, conserving moisture to reduce wind and water erosion. **YOU'LL SAVE TIME** with that extra-wide Krause swath that cuts plowing time **OFTEN IN HALF**. **YOU'LL SAVE FUEL** and tractor wear with Krause up to 30 per cent lighter draft.

YOU'LL GET BETTER YIELDS from

wonderful Krause-plowed seedbeds. **YOU'LL GET VERSATILITY**, with tillage in any soils . . . for any crop. Use as a plow, disc harrow or stalk cutter.

YOU'LL SAVE UPKEEP with the 4-square box steel frame and other features that fit Krause for years of toughest duty.

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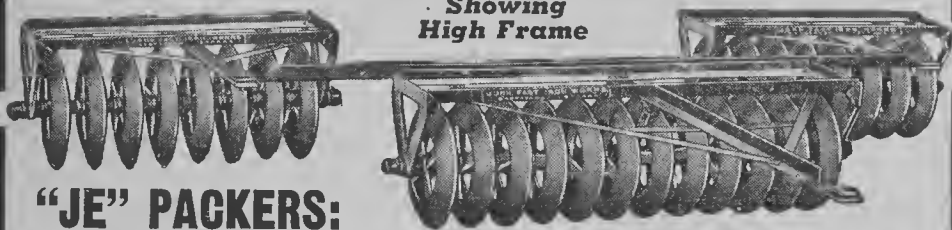


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- SPEED GERMINATION
- REDUCE SAW FLY DAMAGE
- REDUCE SOIL DRIFTING
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Greatest Range of Types and Sizes

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- Three types of wheels, namely, Surface, New Combination and Hollow Vee
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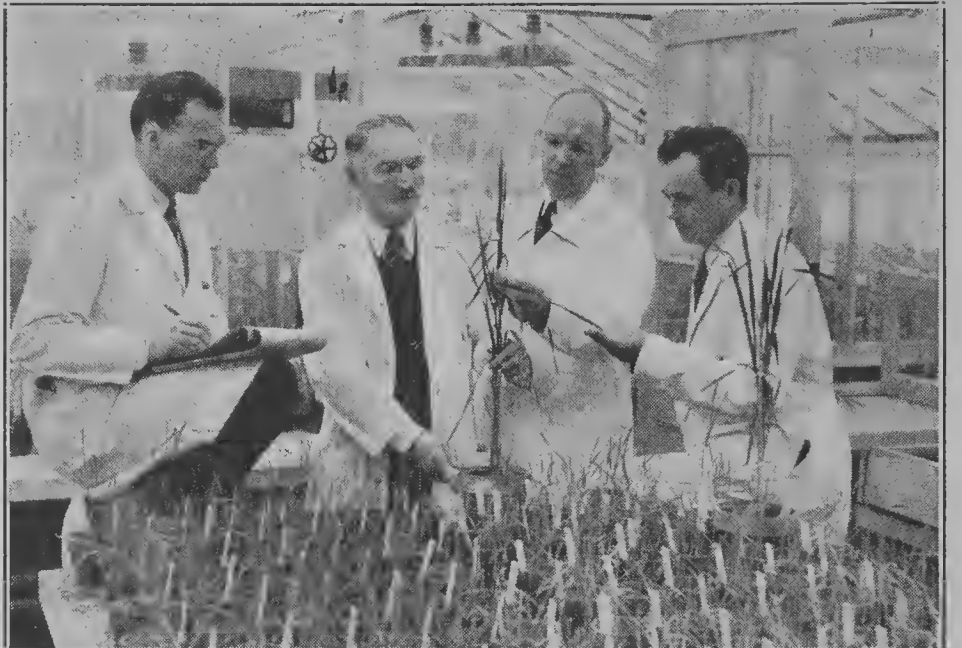
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FIELD



[Guide Photo]

Some of the scientists working to improve crop varieties, left to right: A. B. Campbell, wheat breeder at the laboratory and project leader for wheat breeding in Manitoba and eastern Sask.; Dr. T. Johnson, Head, Laboratory of Plant Pathology; Dr. R. F. Peterson, Head, Laboratory of Cereal Breeding (author of the accompanying article); A. B. Masson, durum wheat breeder in the laboratory.

Checking Wheat Rust Ravages

It is generally agreed that we will have to live with wheat rust, but we do not have to live with it on its own terms

by R. F. PETERSON

THERE will never be a permanent solution of the wheat rust problem." This was the consensus of opinion of delegates from the United States, Canada, Mexico and Colombia attending the International Wheat Rust Conference at Winnipeg on January 5, 6 and 7. This is not to say that we cannot cope with the rust problem, but rather that we can never be certain that the job is done once and for all.

It is now well known that there is an indefinitely large number of races of wheat stem rust and that these races have different capabilities of infecting our known species and varieties of wheat and related grasses. Rust races from wheats and grasses hybridize on barberry bushes and produce infinite numbers of other races. The spores of new races from barberry bushes can again infect wheats and grasses. In countries such as Mexico where wheats and grasses grow the year round, rusts can live and increase year after year in the "red spore" stage. Thus rust races, having escaped from barberry bushes, can exist quite independently of the barberry for an indefinite length of time.

The red spores from wheats and grasses are known to be carried in air currents from one part of North America to another. Our red spores in western Canada are killed by our severe winters but a fresh supply of living spores comes to us each summer in the winds from the United States. That country receives spores from Mexico. It is not impossible for rust spores to move from South America to North America by air currents although we have no actual evidence that they have done so. Our wheats, to be safe, must therefore be resistant to all races of rust existing in the Western Hemisphere.

The great rust epidemic of 1935 in North America was caused by several races of rust, but mainly by one known as Race 56. In 1935 and 1936 rust-resistant wheats were released in western Canada: Thatcher wheat from the United States, and Renown and

Apex wheats from Canada. Another Canadian wheat, Regent, was released in 1939.

By 1939 most of the wheat grown in the "rust area" (Manitoba and eastern Saskatchewan) consisted of these varieties which were resistant to the known races of stem rust. These varieties, and others such as Redman, gave adequate protection from 1939 to 1949. Any feeling of security was dispelled, however, shortly after these varieties became well established.

A new virulent race of stem rust was identified as early as 1939 in the United States and appeared sporadically for about a decade. It was first detected in Canada in 1946. It is capable of infecting all of our present commercial varieties of bread wheat and durum wheat. This race, known as 15B, was widespread in the United States and Canada in 1950, 1951 and 1952. But fortunately seasonal conditions in those years prevented Race 15B from causing the great losses we know it to be capable of inflicting on our present varieties. The losses sustained were mainly in durum wheats, which are most vulnerable. Other virulent races have been identified in South America.

THE obvious need is to find wheats with resistance to all races of rust occurring in the Western Hemisphere, and to cross these wheats with our own varieties to combine rust resistance with high quality and adaptability to our soils and climate. The United States and Canada have collected thousands of wheat varieties from the various wheat-growing areas of the world. Two main methods of testing these wheats are available: (1) bring all available rust races to one place and test the wheats there; (2) send the wheats to be tested where the different rust races exist. We cannot use the first method in Canada because it would endanger our crops, so we must use the second.

The United States Department of Agriculture and the Rockefeller Foundation have given great leadership in the organization of international co-

operative rust nursery tests. Plant breeders and experiment station officials in various countries are assisting in growing tests. The main tests of new material at present are in Puerto Rico and the Virgin Islands. At the time of writing there are approximately 10,000 strains of wheat growing in each of these two tests! The wheats include prospective breeding material from all parts of the world, and new improved varieties submitted by the various co-operating plant breeders. The most virulent rust races from North America are used in these isolated tests.

Each year the varieties showing high resistance in the above tests are given greenhouse tests at Beltsville, Maryland, the University of Minnesota, and at the Winnipeg laboratories. Tests are conducted with known rust races and at different temperature levels.

Nurseries of previously tested varieties (usually 450 or 500 varieties) are grown each year in a number of localities in the United States, Canada and Mexico and in the following South American countries: Argentina, Brazil, Chile, Colombia, Ecuador and Peru.

EACH year the co-operating workers receive reports of rust reactions of varieties in all of the tests described above. There is such a great range of rust races and environmental conditions that very rarely does a variety show high rust resistance in all tests. The few outstanding varieties can be used by the plant breeder with great confidence. This is the great value of this comprehensive system of testing. The system has recently been extended to countries in the Eastern Hemisphere.

Wheat breeding in the "rust area" of western Canada may be taken as an example of a local breeding program. The program is planned and carried out by a "project group" of specialists working in this area. Members include plant breeders and plant pathologists at the laboratories of Cereal Breeding and Plant Pathology at Winnipeg; cerealists at the experimental stations at Brandon, Morden, Indian Head and Melfort; and cereal chemists at the Cereal Division, Ottawa, and the Board of Grain Commissioners' Grain Research Laboratory at Winnipeg. The work is centered at the laboratories of Cereal Breeding and Plant Pathology at Winnipeg. The project group meets once a year to review progress and plan further work. It requires about ten years from the time a cross is made until a new variety is fully tested and ready for release. As new crosses are made each year, new varieties frequently come up for consideration. But the standards set for approval of a new variety are exacting so that the licensing of a new variety does not happen very frequently.

The main difficulty in producing a satisfactory new variety is not the obtaining of rust resistance as such, but rather the combining in a single variety of all the needed characteristics: high yield, adaptability, good baking quality, and resistance to various diseases including rusts. Wheat breeders in Canada and in all countries in the world may submit their most promising varieties for testing in the international rust tests described above.

Most of the remarks made regarding stem rust apply also to leaf rust. Varieties such as Renown, Regent and Redman were at one time resistant to the known races of leaf rust but new races appeared and these varieties are no longer considered resistant.

THE main wheat variety in the rust area at present is Redman. It is moderately susceptible to stem rust Race 15B and the virulent races of leaf rust. New varieties now approaching the stage of final consideration have considerable resistance to these rusts. One such variety, known as C.T. 186 has performed well in the field but has not been fully tested for baking quality. It is being increased in California and Arizona during the winter of 1952-53. If quality tests now in progress prove satisfactory this variety will be further increased in Canada under control during the summer of 1953.

The variety C.T. 186 has a peculiar type of resistance to the known races of stem rust including Race 15B. Plants grown under ordinary field conditions in western Canada appear highly resistant to rust attacks. But if this variety is grown under prolonged periods of high temperature the resistance may disappear. Newer wheats being developed do not have this limitation.

Our ultimate progress in rust control may well depend on fundamental research on both the rust organism and the wheat host. Research projects are being carried out by the universities and federal laboratories in the prairie provinces. Locations of the main genes for rust resistance in the wheat chromosomes are being determined. Rust resistant wild grasses related to wheat are being used to build new species which can be crossed with wheat as a source of new genes for rust resistance. Attempts are being made by employment of the most modern chemical and physiological techniques to obtain a scientific explanation of the nature of rust resistance.

Co-ordination of rust research in Canada is very satisfactory. The wider co-ordination of research throughout North America has also developed to an amazing extent. It is a great help that most of the leading rust research people in North America know one another personally. There is a very free interchange of information and of material. Acquaintance and co-operation with South American workers has grown much in recent years. This concerted effort of many trained and able workers should be our best guarantee that the ravages of wheat rusts will be kept in check.

(Note: Dr. R. F. Peterson is Officer-in-Charge, Laboratory of Cereal Breeding, Winnipeg.)

Putting Machines in Shape

THE rush of work in the summer can be reduced by giving some attention to field machinery during the late winter months. Anticipating breakages will save time in the busy seasons and, perhaps, prevent the injury of other parts by the broken member.

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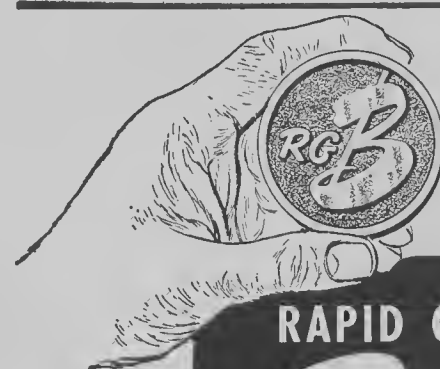
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bottoms should be aligned, and bolts and nuts tightened. A coat of implement paint will reduce rust and improve the machine's appearance and resale value.

Worn, cracked or broken parts of the drill should be replaced, and the machine thoroughly cleaned. The spacing of the furrow openers and their depth should be adjusted and the seeding rate checked for uniformity between runs, and for the actual amount seeded.

The checking over of harvesting machinery is an even longer job. The cutter bar of the swather should be checked, and straightened, if necessary. Bent guards should be straightened, broken guards replaced, and worn ledger plates, sickle sections, wear plates or pressure clips changed for new ones. Wear in the pitman head or bearings should be checked, and registration adjusted so that the sickle sections are centered on the guards at each end of the knife stroke.

If stones have damaged the table it should be straightened and mended; bolts and rivets should be tightened, and canvases repaired.

The cutter bar of the combine should receive the same attention given the swather. In addition, the combine pick-up should be checked for bent and broken fingers, for wear of cranks, cams and other moving parts.

The cylinder requires careful attention. In tooth-type cylinders, excessive end play should be taken out. Cylinder and concave teeth should be checked. Where defective teeth are replaced in the cylinder it is important to also change the one diametrically opposite, to maintain the cylinder balance. In a rub-bar cylinder the bars may be reversed when one face is worn. If bent or broken bars are replaced, the opposite bar must be changed for a new one, to keep the cylinder in balance.

Straw walkers, grain pans and sieves should be inspected for worn, bent, broken or warped parts; bearings, chains, belts, sprockets and pulleys should be cleaned and inspected for wear; and metal parts should be lubricated or greased to prevent rust. If the combine is self-propelled, or has an auxiliary motor, a complete check should be made of the power unit.

It is suggested by C. A. Cheshire, extension engineer, Alberta Department of Agriculture, that all machines that have rubber tires should be jacked up when not in use; this takes the strain off the tires, and lengthens their useful life.

Ladak Alfalfa Best

INVESTIGATIONAL work at the Experimental Farm, Brandon, Manitoba, has established two points to the satisfaction of those doing the work. In the Brandon area Ladak outyielded other varieties. Secondly, farmers are now advised to locate quality alfalfa seed of the recommended varieties, in preference to unidentified or imported seed about which information on adaptation is not available.

Seven imported varieties of French alfalfa were harvested for hay yield, and the yields were compared with Ladak and Grimm. Ladak was the heavy yielder, with Grimm next to it. These two varieties are known to be winter hardy in Canada. Though the winter of 1951-52 did not indicate

whether the French varieties will finally prove hardy, Ladak yielded over one ton per acre more hay than the best French variety, indicating that the imported strains cannot compete.

Results of tests using standard Canadian varieties confirmed the findings of other years; Ladak outyielded all other varieties, producing 3.18 tons per acre of dry matter; Rhizoma, Viking, Atlantic and Grimm produced significantly less per acre, and further down in the production records were Ranger, Buffalo and Ferax.

Selecting the Best Crop

THE selection of the most suitable crop variety for any area may be difficult, but it is important. A variety grown in an area to which it is not suited will not produce as large yields as the recommended varieties.

A summary of recommendations concerning Manitoba's 1953 field crops, as approved at the Manitoba Agronomists' Conference of December, 1952, has recently been published in pamphlet form, and is available from agricultural representatives or directly from the Publications Branch, Manitoba Department of Agriculture, Winnipeg. Preferred varieties of field crops are listed on a chart, which also indicates the zones in the province where they can best be grown.

Similar information is available to farmers in Alberta and Saskatchewan from their provincial departments of agriculture or from the district agriculturist or agricultural representative in each area.

Selecting Flax Varieties

TESTING of maturity dates and yields of several varieties of flax at the Experimental Station, Beaverlodge, Alta., has once more demonstrated the importance of using only the varieties of crops recommended for a particular area. Varieties that are of value in southern Manitoba may not be the best available in other areas.

Rocket flax is a case in point. It will mature satisfactorily in parts of Saskatchewan and Manitoba, and is recognized as a rust-resistant variety that yields well. Nevertheless, tests over a five-year period indicate that it has no place in the Peace River district, as it not only matured 4.7 days later than Redwing, but also yielded 2.2 bushels less per acre.

Redwood, developed at the University of Minnesota, is attracting some attention in Manitoba, but in the Peace River region it matures nine days later than Redwing, and yields 4.5 bushels per acre less. Redwood is admittedly higher yielding than Redwing, but its later maturity has resulted in frosted crops and reduced yields in northern areas. Marine, developed by the State College Station, Fargo, North Dakota, is also recommended in parts of Manitoba, where it matures early, is resistant to rust, and gives moderate yields. At Beaverlodge it has been found to yield 2.7 bushels less than Redwing and matures two days later.

Many varieties of flax are grown profitably throughout the West and are recommended for many areas; none offer any promise over Redwing as far as the Peace River district is concerned.

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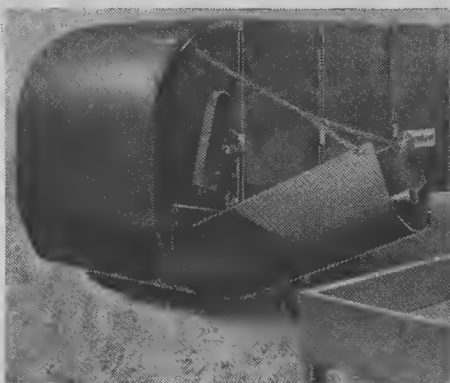


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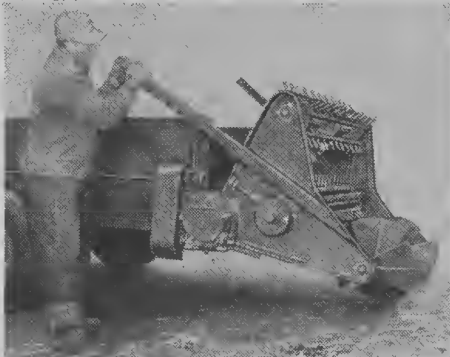
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Consumer Co-ops

Continued from page 13

\$133.4 million and a membership equity of \$70.4 million.

CONSUMER co-operatives, more than producer or marketing co-operatives, can be small or relatively big. Saskatchewan Federated Co-operatives Limited, for example, distributed goods to 448 local co-ops in 1952. Among these was one which purchased only \$42 worth of goods through Federated, and drew a patronage refund of \$2, while another had purchases of \$1,271,163, to earn a patronage refund of \$90,413. There were, in all, 43 local co-ops with purchases of more than \$100,000 during the year, and 11 locals which earned patronage dividends of less than \$10. On the other hand, 23 locals each earned more than \$10,000 in patronage refunds and, in fact, averaged \$19,923 on an average business done with Federated of \$273,603, to give them a refund of 7.29 per cent of purchases.

Federated, of course, is the product of a long period of development—more than 40 years—while the development of co-operative marketing to its present stage has required nearly 50 years. The first co-operative purchasing in Saskatchewan was done through the Trading Department of the old Saskatchewan Grain Growers' Association; and by 1914, when the first annual report of the Co-operative Organization Branch of the government was published, sales of \$300,000 worth of binder twine, flour, coal, feed, potatoes and apples were recorded. Even in 1928, 14 years later, when a conference of co-operative trading associations was held, there were only 38 delegates and five visitors. It was at this meeting that approval was given to a proposal which resulted in the incorporation of the Saskatchewan Co-operative Wholesale Society during the following year. At the end of the first year's operations, 29 original member associations had each invested \$100 in the new society, and of these, seven received patronage dividends of more than \$100, the highest being the association at Landis, with \$287.20. In addition 102 other associations received refunds varying from 17 cents to \$148.25, all but seven receiving less than \$50.

With the increase in tractor use came an increasing demand for gasoline, oil and grease. The Co-operative Wholesale Society purchased gasoline from the major oil companies and independent refineries, on a brokerage basis, for distribution to local associations. When the wholesale prices of petroleum products increased sharply, following the purchase of several independent refineries by the major oil companies in 1933 and 1934, the acquisition of a co-operatively owned refinery seemed like a good move. Consumers' Co-operative Refineries Limited began operations in the spring of 1935, with a capacity of 500 barrels per stream day.

The first year of operation resulted in a distribution of surplus amounting to \$21,346.87 to 25 associations, the largest of which, at Sherwood (Regina), and Riceton, received \$4,904.29 and \$4,753.40 respectively.

In 1939, the first cracking plant was added, which raised capacity to 1,500 barrels per day. In 1942, minor additions raised it still further to 2,000

barrels. In 1950, major construction was undertaken which raised output to 6,500 daily and, for the first time, co-operative refining capacity was ahead of co-operative consumption. To plan now for 1955 when consumption is expected to catch up again with capacity, plant additions to cost \$5.5 million are on the boards and will eventually increase capacity to 12,000 barrels per stream day.

By 1939, sales of co-op gas amounted to 5,471,712 gallons, or 7.12 per cent of total provincial consumption. In 1952, sales were 57,677,000 gallons or about 17.58 per cent of provincial consumption, which had meanwhile doubled. During 1952, Federated supplied 272 co-operative outlets with petroleum products of which ten purchased more than 500,000 gallons, 36 more than 300,000 gallons, and 199 more than 100,000 gallons. Only 73 locals used between 10,000 and 100,000 gallons.

In the interim, also, an amalgamation had taken place in 1944 between the Saskatchewan Co-operative Wholesale Society and the Consumers' Co-operative Refinery Limited, to form Saskatchewan Federated Co-operatives Limited. Since then, for reasons connected with federal income tax law, Consumers' Co-operative Refineries Limited has again been set up as a subsidiary of Federated.

In 1952, Federated increased its total sales volume by \$4.7 million, and its directors were able to report to the annual meeting held in Saskatoon in January, that "during the year your own productive enterprises produced approximately 45 per cent of the total volume of goods handled, and were responsible for approximately 65 per cent of all earnings."

Federated owns a lumber mill at Canoe, B.C., from which sales of 16,294,000 feet of lumber were made last year. Lumber sales to associations totalled \$2.4 million or 45 per cent more than the previous year. It owned two coal mines (one now closed down) which produced 146,000 tons during the year, or 3,475 carloads. Hardware sales totalled \$2,600,000 for an increase of 16 per cent, while groceries did business amounting to \$4,250,000, or 20 per cent more than in 1951 (compares with \$165,000 in 1942). Sales of dry goods amounted to \$695,000, a 16 per cent increase; feed and flour sales held \$988,000, though co-op bread sales rose by 300,000 loaves to 1,700,000. Bulk sales totalled \$1,440,000. Sales to locals, of equipment such as trucks, pumps, meters, and farm storage tanks amounted to \$335,150.

Branch warehouses of Federated are operated at Regina, Tisdale, Swift Current and Yorkton. Last year, the volume of sales out of these ware-

houses increased by \$2 million, to reach a total of \$9 million. Indeed, the directors reported that over the past five years the dollar volume of merchandise moving through these warehouses has increased two and a half times, without the provision of any additional space.

FEDERATED has recently placed a great deal of emphasis on the dangers inherent in any increase of credit sales to members. During recent years, despite many evidences of prosperity, nearly all co-operatives have been brought face to face with the same problem. The directors of Federated were at pains to point out that for a group of approximately 120 local associations, the records of which were available for tabulation, an increase in sales volume between 1948 and 1952, amounting to 46 per cent, was accompanied by an increase in the dollar volume of accounts receivable, amounting to 371 per cent, or an increase in the proportion of credit sales of from 2.8 to 8.2 per cent.

"In spite of repeated warnings of the dangers of credit trading," the directors told the 128 delegates assembled at the annual meeting, "accounts receivable are a serious problem in all too many local associations, and as a result, the accounts receivable by Federated are steadily mounting. Apart from the fact that credit trading is illegal (except under specified conditions), the situation is so serious that it is imperative that something be done about it to protect member equities. Already several local co-operatives are threatened with liquidation—the result of credit trading . . . Boards of directors whose responsibility it is to protect the investments of their membership, should not permit managers to place member equities in jeopardy by extending credit, without raising additional capital for this purpose, and taking steps to legalize their own position."

Working together—that's what the word means, no matter what kind of co-operation it is. The more members ask for and receive credit, the greater will be the reduction in patronage refunds. There are ways around this credit dilemma, however, the best of which is to avoid it, by adopting a strictly cash policy. The second best is a credit union in the same community, which would put credit where it belongs, in a co-operative whose business is credit. It should always be remembered that despite all the variations of the co-operative theme that have been played in Saskatchewan and elsewhere, the meaning of the word—its old, original, simple meaning—applies today in co-operative business, just as it did when the word itself was created from the Latin in the days of Shakespeare and King James I.



Federated's Hy-Grade coal mine at Drumheller, Alberta.

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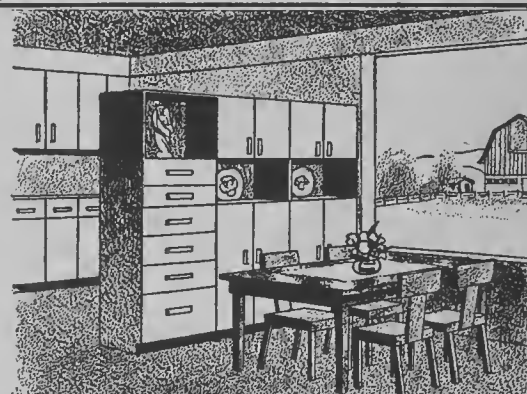
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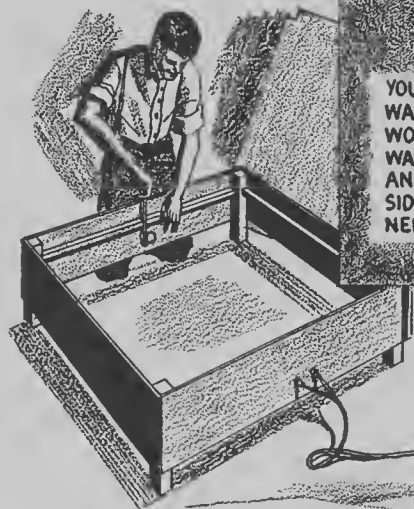
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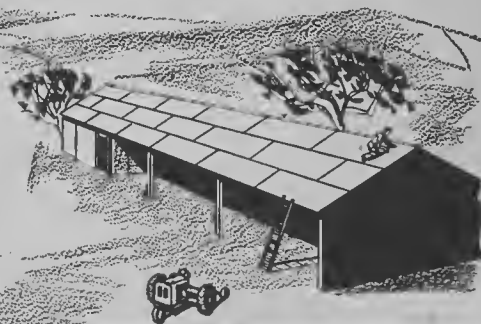


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HORTI- CULTURE

New Species of Cherry by F. L. SKINNER

IF the story of horticultural development in western Canada ever comes to be written, I doubt if there will be very many more interesting chapters than that relating to the development of *Prunus dropmoreana*. This is a hybrid race of cherries, that though their own fruit is of no edible value, still promises to make possible the large-scale cultivation of sour cherries throughout the whole Great Plains area from Iowa northward. Even as far south as Iowa there is no satisfactory stock for sour cherries in commerce at the present time, that is reliably hardy.

The development of *Prunus dropmoreana* had its start about forty years ago when I saw a bush of the Koslov Morello cherry bearing fruit at the Brandon Experimental Farm. I found the cherries quite palatable, and was able to grow a few bushes from the seeds I took home with me. These bushes proved quite hardy at Dropmore but did not produce enough fruit to make their cultivation profitable.

In the hope of increasing their fruitfulness, I tried crossing them with the native pincherry (*Prunus pennsylvanica*) and while the pincherry failed to produce viable seeds to the pollen of the Morello cherry the latter gave me a few viable seeds when the pollen of the pincherry was used on it. Shortly after I made this cross the Great Plains horticulturists visited Dropmore and Dr. Baird of the U.S. Horticultural Field Station at Mandan, North Dakota, was so much interested in this hybrid cherry that he made a similar cross the following season. Unfortunately neither of our hopes for more fruitful and hardy cherries were realized; when our hybrids reached the bearing stage they all proved to be absolutely sterile. Thinking that they might become fertile under other conditions, Dr. Baird and I exchanged hybrids and each of us planted the other's hybrids near his own. Still there were no fruits, so one spring I sprayed my hybrids with colchicine, first when a few flowers only were open and again when the bushes were in full bloom.

That summer I got a few fruits from these bushes that hitherto had been quite sterile and succeeded in raising half a dozen seedlings. In 1948 these seedlings flowered and ripened a few fruits. It then became quite apparent that their male parent was *Prunus maackii* that was growing near the Morello-pincherry hybrids that had been sprayed with colchicine, because both flowers and fruit distinctly showed the influence of *Prunus maackii*. Some of the seeds harvested that year were distributed among institutions that I thought would be interested in them, and a few seedlings were raised. Professor L. H. Hough of the Agricultural Experiment Station, New Brunswick, New Jersey, was much interested in the new cherries and I shared the few seedlings I had with him.



Prunus dropmoreana, the new species of cherry developed by F. L. Skinner and growing at Dropmore, Manitoba.

During the summer of 1950 a cherry raised at the Central Experimental Farm, Ottawa, bore some fruits at Dropmore. This was the best cherry that had been sufficiently hardy to bear fruit here without protection; and while looking around for a suitable stock on which to bud it, I thought of trying the seedlings of the new hybrid cherry. These buds set very well and by the autumn of 1951 had made such a fine union that every one to whom I showed them was delighted with the prospect of at last securing a hardy non-suckering stock for sour cherries. One prominent nurseryman from southern Iowa was especially enthusiastic about them. Even that far south they find that the European cherry stocks are not reliably hardy; and none of the hardy cherries that are now available in commercial quantities are good stocks for sour cherries. The hardy Russian Morello cherries sucker very badly, and sour cherries do not unite very readily with our native pincherry.

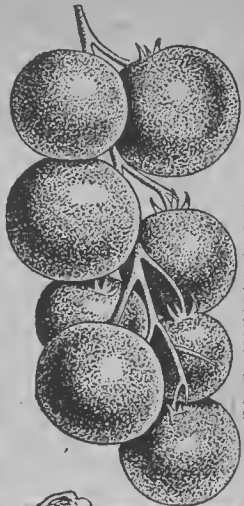
One of the interesting things about this new race of hybrid cherries, which I have now named *Prunus dropmoreana*, is that the seedlings grow quite fast and are very uniform in character; in fact, there is little more variation in them than is usual in a true species. So far they give no indication of suckering and they are very easy to bud. The parent bushes are quite prolific seed bearers and the seedlings are easy to raise, and transplant quite readily.

While the Russian Morello and pincherry both sucker freely, the original hybrids between the two sucker much more freely and soon spread into almost impenetrable thickets. It is all the more remarkable, therefore, that by bringing *Prunus maackii* into the combination we are able to secure a type that gives little indication of being liable to this objectional trait. Of course, *Prunus maackii* does not sucker and *Prunus dropmoreana* very much resembles *P. maackii* in habit of growth.

With a view to finding out whether *P. dropmoreana* is likely to be of value as a stock for other types of *Prunus*, quite a selection of species and varieties were budded on it last autumn.

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The summer of 1953 should give us some data as to the advisability of carrying on these experiments.

Besides the New Jersey Agricultural Experiment Station this new Prunus is now under trial at Cornell, East Malling, University of Manitoba, Morden, Brooks, Alberta, and nurseries in both Iowa and Minnesota.

Keeping Cut Flowers

EVERYONE wants to keep cut flowers as fresh as possible for as long as possible, and a number of sure-fire methods have been handed along from time to time. The experimental station at Saanichton, Vancouver Island, points out that most of these are good, but some have not been very effective. One of the difficulties is that several factors are responsible, most important among which are the quality of the flowers in the first place, and the temperature of the room in which they are kept.

The station calls attention to a recent discovery, which is that the higher the alkalinity of the water, the lower the keeping quality is likely to be. This conclusion, however, has not been tested at the Saanichton station, but is based on work at the University of Illinois, where it was found that water with a pH of 4 is considered most desirable. In the pH scale, pH 0 means extreme acidity and pH 14 means extreme alkalinity. Logically, therefore, pH 7 means a neutral solution that is neither acid nor alkaline.

Thus, when Dr. Camp of Illinois reports little difference in keeping quality between pH 5.5 and pH 8, he refers to solutions that are either slightly acid or slightly alkaline. Nevertheless, he found that flowers keep better at pH 5 than at pH 6 because of the slightly greater acidity of the solution, while pH 4 seems to indicate the most favorable amount of acidity in the water. Keeping quality begins to decrease again if the acidity drops to pH 3.

All this is very interesting, but not especially useful to the housewife with her vase of flowers, unless she knows that the water supply is normally alkaline, or unless she can have it tested accurately and is told the correct amount of sulphuric acid to add to a gallon of water in order to bring its acidity to pH 4.

Of course, the housewife who is fond of having cut flowers in the house could experiment for herself, by selecting some flowers of a same degree of freshness and maturity, and dividing them up into, say, six small lots and keeping them at the same room temperature in six containers, each with the same amount of water. By adding a drop or two of sulphuric acid to one, three or four drops to the next and so on, she could find out what solution would keep the flowers best. Who knows—perhaps someone will try this, especially if the water is known to be alkaline, as much of our prairie water is.

Frost-Resistant Tomatoes?

A NOTE from the Lethbridge Experimental Station suggests interesting possibilities related to the search for a frost-resistant tomato. Profitable yields of ripe tomatoes are not easy to secure in the Lethbridge area because of danger of early fall frosts. Now, attempts are to be made

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The Forage Harvester is a 3-in-1 machine. Three optional attachments include: 1. A reel and sickle for chopping green standing crops, clipping pasture and stubble. 2. Pickup attachment for chopped windrowed straw for bedding, dry or wilted hay. 3. A unit for field-chopping tall row crops for silage. With your own Forage Harvester, you're always ready to move fast . . . in any crop. See your Allis-Chalmers dealer or write us for illustrated catalog.

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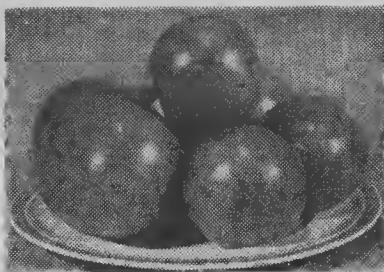
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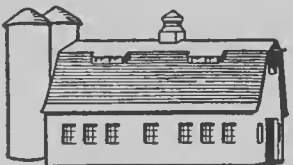
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to determine whether frost resistance can be introduced by way of four wild species of tomato. Last spring, seed was obtained from 146 different types, of these four wild species, in addition to an English and a Texas variety, each of which is reported to possess several degrees of frost resistance.

"It is known," says the item from the station, "that one of these wild species was used in the development of the Texas tomato, and very likely an English one as well. It is hoped that amongst these tomato accessions, one will be found which will possess the ability to withstand some frost. The problem then will be to transmit the frost resistance factor to commercial tomatoes by breeding. This will involve a great deal of intensive research before anything promising may be realized, but if successful could easily result in extending the growing season of tomatoes in southern Alberta by as much as four to six weeks."

Big River Rosybloom Crab

ABOUT six years ago we received a parcel from Mr. Percy Wright, of Moose Range, Sask., containing, among other things, two small crab-apple trees labelled "Big River." As soon as they put out leaves it was noticed that they belonged to the class of hybrid Baccata known as "Rosybloom."

The first we had had of this class was Hopa, originated by Dr. N. E. Hansen of South Dakota. It bloomed well only once with us, then succumbed to our difficult conditions here. We later tried many of the Ottawa introductions, such as Scugog and Nipissing, but they were not hardy enough for us. Am sorry to say that the Almey crab from Morden also failed us, though it is a beautiful thing and of great value for locations where it is adapted. You may guess, then, that we watched Mr. Wright's seedling with interest. It first bloomed in 1951. Last spring it put on a grand show. The flowers are a deep rose pink, or crimson, about the color of the deeper colored variants of our wild rose, fading to a lighter tone as the blossoms age. Our trees are now nearly ten feet high and one visitor thought they were a new sort of rose.

These trees have been perfectly hardy over the past six years and have shown no signs of fireblight so far, though other crabs nearby, including Rescue, have shown both winter damage and blight injury. The trees themselves are medium growers, finetwigged, and have medium to small leaves. The leaves do not have the dark color that some selections of this group do, but are very attractive. The young leaves are a pretty red, fading to green as they age. The fruit is small, about the size of a big pea, an advantage where it is to be grown as an ornamental, as small boys and others will not rob the tree of its fruit. The tree is fairly open, with strong crotches that will not break down under heavy snow.

We have had much pleasure and satisfaction from the Big River Rosybloom. As it thrives here with us in northern Saskatchewan it looks as though it will be better adapted over the more severe sections of the prairies than any of this type previously obtainable. — A. J. Porter, Parkside, Sask.

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Fifty Years

Continued from page 11

A replacement program is likely to be needed after about 50 years. Ever-green trees, also, require additional care during their early life and must be given adequate living space to permit best development.

Table I—Field Shelterbelt Areas

	Area (Sq. Mi.)	Miles of Hedges	No. Trees Planted
Aneroid, Sask	144	132	1,025,300
Conquest, Sask	126	533	5,741,866
Lyleton, Man.	72	303	2,069,441
Total	342	968	8,836,607

Still farther west, within the Palisser triangle, trees in the open exhibit less vigor and size, unless they are irrigated. Planters must be content with a more limited selection of species. The mulching of tree rows, or the provision of cultivated margins for each row, are practices which tend to improve the chance of survival and enhance development of trees. In this dry area caragana and green ash succeed best under exposed conditions. If feasible, a site with a slope toward the north or east should be chosen for trees. Recurring and continuing drought periods may necessitate replanting of trees at intervals of less than 50 years.

For all shelterbelt plantings, forest nursery station recommendations are: (1) Close spacing in rows; and (2) A minimum pruning of trees, so that efficient shelter may be enjoyed in the shortest possible time, and continue for as long a period as possible. Typical native tree groves in the prairie region are characterized by close spacing and bush form. By imitating these conditions as far as possible, trees suffer least from harmful effects of sun, wind and drought.

From their experience and studies in tree planting during a 50-year period, forest nursery stations are in a position to provide answers to most questions and problems which face tree planters. Lessons from the past are the guide for present and future recommendations. For example: proper soil preparation is most essential; belts should not contain too many rows of trees; trees will not survive if neglected; poplar and willow fail under extremely dry conditions; ever-green and broadleaved trees should be planted in separate rows.

AN analysis of reports received from tree planters reveals that maximum use is not being made of shelterbelts for the production of vegetables, fruits and flowers. In per cent

of farmers contacted during recent years, slightly less than 70 per cent had well-sheltered vegetable gardens; just over 20 per cent were growing tree fruits; around 45 per cent were producing small fruits; and 30 per cent gave attention to ornamentals. These may be considered conservative figures, but they indicate that planters have not been completely sold on all horticultural features which might characterize the prairie farm home.

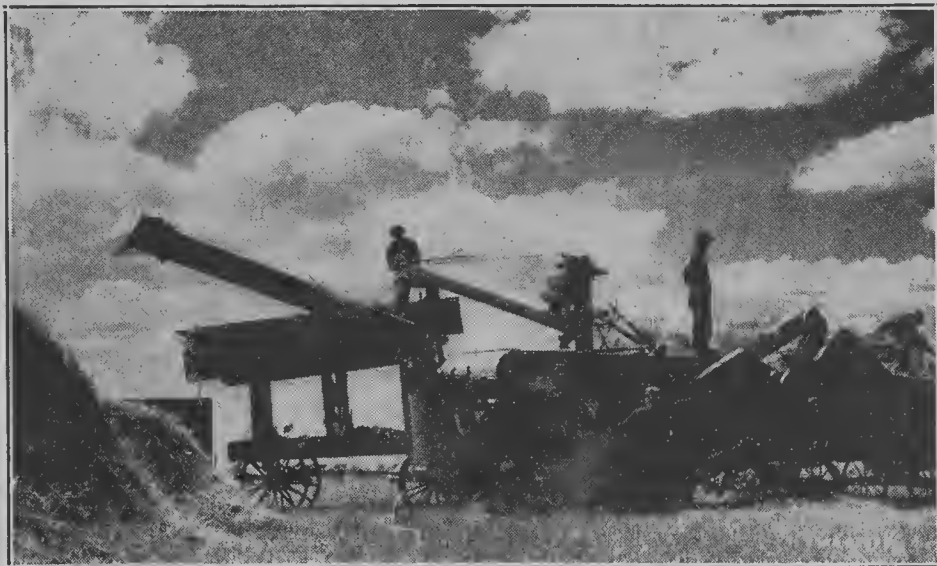
It is gratifying to note that whereas over 70 per cent of farm shelterbelts throughout the prairie region are in good condition, 25 per cent are in fair condition, and only about five per cent are in poor condition. Over 90 per cent of the planters contacted, report their shelterbelts cultivated; and from all districts some damage by rabbits, grasshoppers and other insects was recorded. Damage was more severe in some districts than in others. Concern has also been expressed by some planters regarding injury to trees by 2,4-D dusts and sprays. For all these problems the alert planter has access to additional helpful information from his local agricultural representative.

Despite some lack of efficiency, reports indicate that shelterbelts are fulfilling the functions for which they have been planted. A majority consider snow accumulation of first importance. In second place, by popular vote, is protection, while aesthetic value follows in third place.

To further improve the type of planting material which may be supplied for prairie farms, and to more fully understand conditions which affect tree growth, tree breeding and tree physiology divisions were established at Indian Head in 1947. Research by officers in charge of these divisions is already bearing fruit.

Some aspects of prairie farm tree planting have been discussed in this article. The program has been successful, because it has been fully co-operative. Planting material has been made available at little cost, and, through individual effort on the part of the planter, substantial benefits are secured in his own lifetime. Apart from benefits which represent physical improvements and monetary returns, there is, also, the more personal satisfaction that, through his efforts in establishing vigorous shelterbelts, the tree planter has made a significant contribution to the general appearance of the countryside for the enjoyment of his fellow citizens.

(Note: John Walker is superintendent of the Forest Nursery Station at Indian Head, Sask.)



This scene could portray the wheat harvest on the prairies, but actually it is rice being threshed in the United States.

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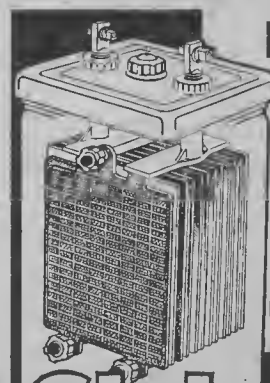
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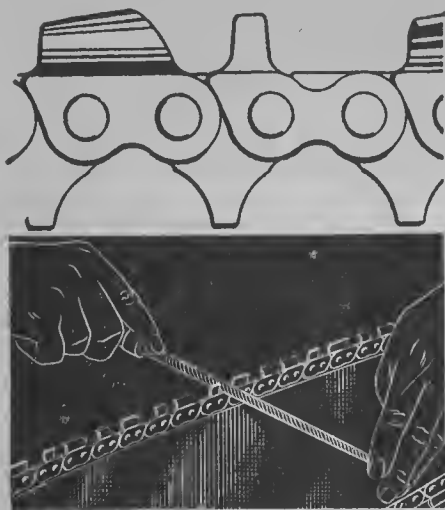
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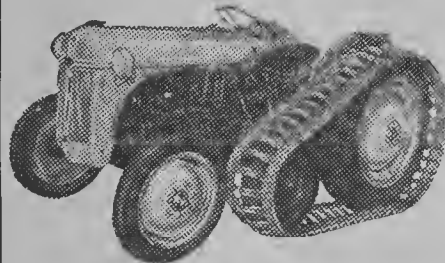
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Executive of the 4-H Alumni Club at the University of Alberta. Front row, left to right, Daunavan Buyer, president, Betty Brown, Ross Gould. Second row: Bob Hymas, Barbara Bills, Howard Roppel, Ann Feyrer and Don Robertson.

Teen-Age Poultry Winners

WINNING the poultry judging honors in 4-H club competition at the Royal Winter Fair last fall was an early achievement for two pretty young Manitoba girls. It wasn't their final performance of the year.

Hardly had they returned home when they were off to the Brandon Poultry Show with the best birds from their flocks and into the thick of competition, not only with other 4-H club members, but this time with the best Manitoba poultrymen as well.

Their lack of age and experience was apparently no sizable handicap to these determined girls, for in this tough competition, they outstripped all contestants, and each claimed one of the show's most treasured trophies.

As if to drive home the fact that juniors can do the job, another smiling young 4-H'er saw her well-fattened and skilfully dressed capon judged winner in the 4-H competition, and then saw the gleaming-fleshed bird carried through into open classes and awarded the ribbon as champion of the show.

The young teammates who made the successful trip as judges to the Royal Winter Fair, and as showmen to the Brandon Poultry Show, were Phyllis Hockin and Edythe Sumner, both of Mentmore, Manitoba. It was the Aikens Challenge Trophy, for best solid-colored bird in American classes, that Phyllis proudly carried home. Her partner, Edythe, took the coveted Nor'West Trophy for the best solid-colored bird in the Mediterranean classes. Berthe Lemoine of St. Agathe was the happy winner in dressed poultry classes.

These achievements were personal rewards for hard work and skilful perseverance in an important job. They were achievements, too, of Canada's young farm people, showing that in the practical business of raising profitable poultry, they can be right in the front row with sound methods.

In fact, at the Brandon show, 4-H club members made 21 entries, and not one was in the fancy classes for highly decorative but far less useful birds. Club entries were in the chicken, turkey, duck and geese classes that represent the dollar earners in prairie poultry flocks.

Junior farmers in Canada are a serious-minded group when it comes to the business of farming. They pick up ideas and put them to work. A win

in 4-H competition is no mean achievement. It has meant, on occasions, that the winner was good enough to whip all competition, young and green, or old and experienced alike.

Gardening in February

SWIRLING snow and driving frosty winds are no damper on the boundless enthusiasm of a died-in-the-wool gardener, when the winter's first seed catalog appears in the mailbox. Almost any time now, the first of these "annual garden temptations" will arrive, if it has not come already.

As the enthusiast scans the pages that are brilliantly colored with dahlias and zinnias and roses, or with carrots and beets and pickling onions, the howling wind outside will fade into oblivion. He will see visions of a brilliant perennial border around his house, or of the refreshing taste of a crisp carrot cleaned on the dewy grass and munched audibly on the spot.

What! You are not on the mailing list of any seed houses? For the mental relaxation alone, the catalogs are well worth browsing through. Why not write today to one of the seed houses. Their catalogs will soon be off the press and they'll be glad to send one.

If you intend to do some gardening this year, it isn't a bit too soon to begin planning now. If you are a member of a 4-H garden club in Manitoba, you will get seeds from the leader.

As spring approaches, many an interesting hour can be spent indoors, planning in detail the summer's garden work. Garden club members will plan together.

That shouldn't stop you looking further than your garden plot beside the house. Look at your whole farmstead. Could its appearance be improved? Trees planted at strategic spots around the home may give it a warmer, friendlier appearance. Write to a nursery for their catalog and see what they recommend to dress up your farmstead with rich green foliage. Don't forget windbreaks and shelterbelts. Planted in suitable arrangement they will soon grow big enough to be effective protection against a sweeping January wind when it comes rolling over the prairies.

If you are thinking now of fresh vegetables for early summer, what about a hotbed? It is easy to construct, and could make it possible for you to have fresh vegetables a couple of weeks earlier than usual.

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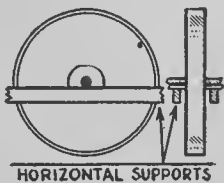
CITY _____ PROV. _____

Workshop in February

Jobs done now will lessen the pressure in the spring months

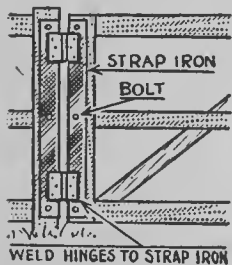
Balancing Pulleys

Rotating machinery that is out of balance can cause trouble. Balancing can be done by placing the member on a shaft that fits perfectly and then resting the shaft on two flat, horizontal supports. The member will roll back and forth until the heavy side comes to rest at the bottom. When the heavy side is found the condition can be corrected by grinding or filing on the heavy side. Alternatively, weight can be added to the light side by welding, or drilling a hole, tapping and adding a screw or bolt.—W.F.S.



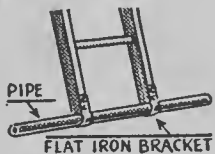
Sagproof Gate

The problem of hinges coming loose on a heavy gate can be overcome by welding the hinges to two pieces of strap iron, as shown. In assembling, lay the two pieces of strap iron parallel, about 1/2-inch apart. Weld the hinges securely, drill holes in the strap iron and bolt the assembly to the gate and gate post.—H.E.F.



Steady Ladder

To make a ladder safe, and prevent it from twisting on uneven ground when in use, bend two pieces of strap iron, as shown, and fasten them to the ladder. A short length of pipe can be inserted in the lower end, making a firm base. To make it even safer, the same thing can be done at the top.—A.B., Sask.



Shelf Brackets

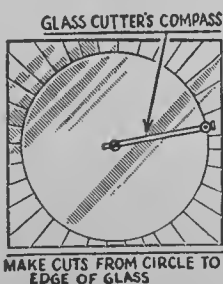
Permanent basement shelves can be made by positioning 3/4 by 18-inch rods when the basement walls are poured. The rods can be placed four feet apart at the desired height. Later,



when a shelf is wanted, it is a simple matter to lay planks on these rods. If wide shelves are wanted sections of 3/4-inch pipe can be slipped over the rods.—I.W.D.

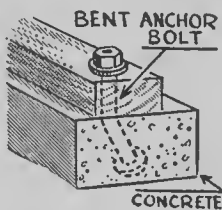
A Glass Circle

The trick in cutting circles or semi-circles in glass is to make cuts from the circumference of the circle to the outer edges of the glass. The glass will then break off in pieces around the circumference. A glass cutter's compass should be used for cutting the circle.—E.S.



Anchoring Bolts

When bolts are anchored in concrete, for attaching objects which may be removed and replaced at intervals, bent bolts will have less tendency to loosen. If the bolts are bent they will also have less tendency to loosen under great tensions, as bent bolts will anchor much more firmly than straight ones.—A.B., Sask.



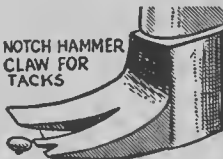
Bending Water Pipes

To bend a small water pipe take a piece of larger pipe, five or six feet long, and fasten a T-joint to its threaded end, as shown. Slip this end over the smaller pipe to the point where the bend is to be made and stand on the latter to hold it down. The bend can now be readily made by pulling on the heavier pipe.—H.E.F.



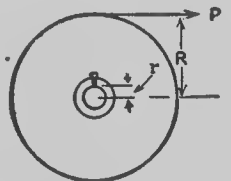
Secondary Claw

A small claw on your hammer is useful for pulling tacks or very small nails. File or grind the notch and bevel the inside edges. If the claw is too thick to readily go under the head of the tack, grind it down. This will not affect the general usefulness of the hammer.—A.B., Sask.



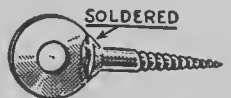
Set Screw Strength

We often expect a set screw to pull entirely too much for its size. When you consider that the belt pull at P in the sketch is often in the hundreds of pounds it is surprising set screws hold as long as they do. A formula will show the pull at P: (a) Multiply the horsepower being transmitted by the radius R in inches, and multiply by 33,000; (b) Multiply the velocity of the pulling force P in feet per minute by the radius r of the shaft in inches; Divide A by B and you have the force in pounds P that the set screw must hold. A 1/4-inch set screw should not be expected to hold over 100 pounds; a 3/8-inch 256 pounds; a 1/2-inch 500 pounds; a 5/8-inch 840 pounds; a 3/4-inch 1,280 pounds; a 1-inch 2,500 pounds, and a 1 1/4-inch 4,198 pounds. These figures give some idea of as to why 1/4-inch set screws so often slip.—W.F.S.



Making a Thumbscrew

A thumbscrew can be readily improvised as shown by soldering a washer vertically to the head of a screw of the necessary size. A sufficiently large washer should be used to be readily gripped in the fingers.—A.B., Sask.



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Lye is the natural enemy of greasy dirt that can gather and cake on and in stoves. To speed cleaning: scrub with a stiff brush and a solution of 2 tablespoons of lye to a gallon of water.

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Frank Wiebe identifies one of his good birds as he takes her from the trap-nest.

Eggs Too Good to Eat

An R.O.P. poultry breeder puts in long hours of work and planning. If he is successful, he is well paid for his accomplishments

HOW would you like to sell eggs right from the hen house, at more than 30 cents apiece? Fifteen Manitoba poultry enthusiasts are doing just that, but the high-priced eggs they produce will not be served in de luxe hotels for breakfast with three crisp strips of bacon.

The eggs are for hatching and they come from intensively bred, Record-of-Performance-tested flocks such as that of Frank Wiebe at Steinbach, Manitoba. Only for three months, from the middle of January to the middle of April, does the price rise to \$3.00 or \$4.00 a dozen; and it rises that high because flock owners are willing to pay a premium for a few birds that will bring certain selected and proven bloodlines into their own flocks.

In his quiet, eager way, Frank Wiebe devotes long hours of planning and work to his modest-sized flock of 600 pedigreed Barred Rocks. He differs from the commercial poultryman in the objective he has in mind. Instead of setting his sights for a huge volume of eggs at the lowest possible cost, his goal is to develop more useful hen families; families that will grow faster, lay more eggs and show a greater profit to the poultryman who raises them.

With his small flock, Frank virtually confines himself to his hen house ten months of the year, five days a week, from daylight till dark. He trap-nests the pedigreed pullets, culls them, observes their every characteristic.

He learns how fast they feather, how many eggs they lay, the size of the eggs from each, and whether or not the birds go broody while in heavy production. Just as a dairy cattle breeder examines his cows from the viewpoint of milk production, body conformation, and pedigree, before deciding which bulls would best mate with them, Frank examines his birds, searching for characteristics that make them valuable as breeding stock.

In many ways the tests his birds go through under R.O.P. are more critical than those applied by the most suc-

cessful livestock breeders. Whole families rather than single birds are tested under the R.O.P. policy which is supervised by the Canada Department of Agriculture. Pullets are scored on egg size, hatchability, body weight, meatiness, speed of feathering and mortality. If there is a single misfit in a family of full sisters, the whole family is thrown out.

Only then may the successful birds be called R.O.P. Certified. Since their parents before them were certified too, they have become highly valuable individuals. The following season, their eggs reach into that magic price range.

Frank Wiebe has 200 R.O.P. certified birds this year. The remainder of his flock are at least a year younger, and are trap-nested and culled as soon as their breeding worth can be measured. Though they have R.O.P. parents, they are still untried, and accordingly their eggs are worth much less.

Frank spares no effort to keep the birds healthy and contented, but he doesn't baby them with misguided pampering. The ever-present need of keeping complete records of his trap-nesting and breeding program, necessitates cutting chore time short. He does it in a way that would be practical on any poultry farm.

Litter built up with chopped straw keeps the birds dry and clean, and results in better manure for the garden at spring clean-out time. Dropping pits under the roosts make frequent cleaning unnecessary.

Fresh water is in front of them continually without Frank having to lift a finger. Pipes lead down into the pen from his water pressure system. He purchased valves and floats, fitted them to the end of each pipe, and with these devices, the small steel bowls are kept constantly full of water. Below each bowl is a tub to catch any overflow before it wets the litter.

Dry mash is before the birds at all times, and at noon they get a special

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PAZO FOR PILES

treat of commercial fleshing pellets. Hard grain is fed twice daily.

In one corner of the pen is another item of feed, a bale of well-cured leafy alfalfa hay. It is a valuable winter tonic for the birds and they soon discover that it is tasty, too.

Lights in the pen are switched on early in the morning. Hens lay more eggs in winter, if the day is stretched out a little longer than from sunup to sundown; and Frank doesn't want to miss an egg that can be economically produced. Air in the pens is dry and cool, not hot and humid. Ventilating flues carry out the stale air.

Healthy birds, with a rich inheritance of R.O.P. breeding, are the kind many hatcherymen buy from breeders like Frank Wiebe. Commercial poultrymen who buy from these hatcheries and want their own chicks to have some of these bloodlines, need merely to ask for R.O.P.-bred chicks.

Fresh Air for Poultry

POULTRY can withstand a lot of cold without suffering in health or egg production, provided they are in condition for low temperatures. This was illustrated one cold night last winter when two neighboring farmers had their hen house windows blown open. One flock had been reared on good grass during the summer, and roosted in well-ventilated shelters during the fall. Until that cold winter night, their laying quarters had been kept well ventilated, and during a January cold spell a window had been opened daily.

On that frosty morning the water was frozen in the bowls. The pullets were still fine.

The other flock wasn't as fortunate. Up to that time their house had been shut up tight. They were doing well, but they couldn't take that cold night. They went off egg production.

Observing this, the University of Wisconsin suggests that flocks kept in warm, stuffy houses won't be in any shape to stand a blizzard when it comes.

More Light—More Eggs

IT is common knowledge, though not often put to actual practice, that hens can be persuaded to lay more eggs if the hours of light in the hen house are stretched to 13 or 14 daily, by the use of electric lighting. Poultry research men at Cornell University have proved that 40-watt bulbs will do this trick, while others have stated that 25-watt lamps, burning the whole night through, will show the same results.

Now Switzerland has done some work showing that hens exposed to 1,500 watts for five seconds a day will lay heavily too. It looks like heavy egg production can come from the stimulation of intense light as well as from longer days.

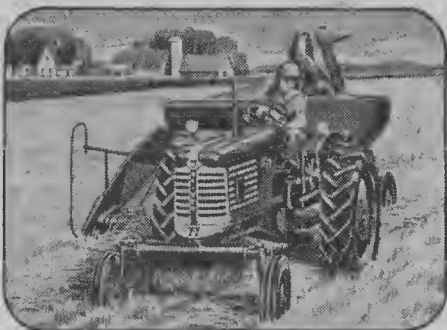
Commercial poultrymen in this country can push their hens to higher production levels by using electric light to lengthen the days, but there is one precaution that must be taken. Once the practice is commenced, it must be continued for the entire laying period. If the birds are put back on a short day they will almost certainly go into a molt, and any benefit that may have been derived from the extra light will be lost.

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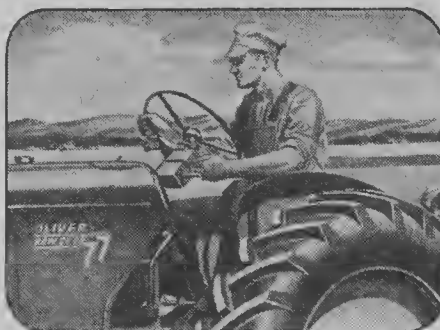


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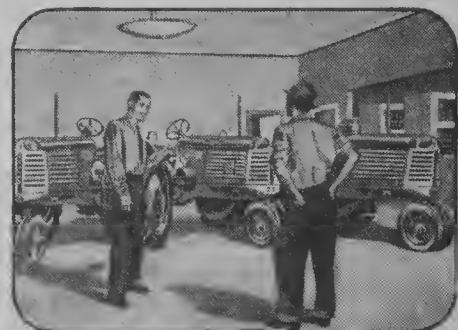
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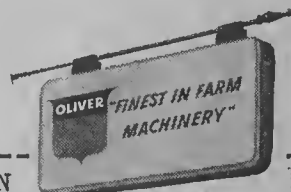
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MONTHLY

Drought Strengthens Wheat Markets

There are those who now envisage a world wheat supply situation turning slightly in favor of the exporters in current and near future price discussions between importers and exporters. It may be somewhat early to make prophecies of this kind. However, despite a new world record in wheat production, and the presence of large quantities of high-grade milling wheat in Canada and the United States, demand has continued strong and prices, therefore, have remained surprisingly firm. While prices of non-I.W.A. wheat eased earlier in the season, the trend has been reversed in recent months.

A number of strengthening factors may be cited, among these being: (1) Severe drought conditions in certain of the United States winter wheat producing regions. (2) Limitations of available transportation and handling facilities which determine the amount of each wheat which can be brought quickly into North American export positions with the result that the full supply effect of the large quantities on this continent is not immediately reflected in world prices. (3) The United States price support policy which exerts a buoyant effect on world wheat prices. (4) Inadequate supplies of rice in eastern areas insofar as rice requirements tend to be replaced by wheat.

Perhaps the most important factor in the current situation is the expectation of a smaller than average winter wheat crop in the United States, resulting, in part, from a reduction of some 550,000 acres in seeded area, but more particularly from drought conditions which have prevailed over recent months.

The January 1 crop report of the U.S. Department of Agriculture indicated conditions as precarious in the Great Plains area and the Pacific Northwest, and fair in California and the mountain states. Condition of the crop in other regions was reported as being fair to good. Fear was expressed that severe winter killing would greatly increase acreage losses unless sufficient snow fell to protect the crop before cold weather set in.

January estimates indicated a possible production of some 611 million bushels as against 1,052 million bushels last year. A crop of this size would be approximately 24 per cent below the 1941-50 average.

While it is quite impracticable at this time to hazard a forecast of the western Canadian wheat crop for 1953, certain factors affecting production may be mentioned. Relatively dry weather has prevailed over much of the area during fall and winter months and subsoil moisture is reported to be below normal in many sections. As a result, next season's crops, particularly that seeded on non-summerfallow land, will have to rely heavily on rainfall during the growing season.

Japanese Process Aids Canadian Barley Sales

A new outlet for substantial quantities of Canadian barley has been developing in Japan over the past

three years. While no barley was shipped to this country prior to World War II, some 15 million bushels, principally for human consumption, were shipped during the 1951-52 crop year. Sales promise to be somewhat higher in the current crop year.

The trend toward increased use of barley in the Japanese diet is due largely to a shortage of rice and the development in Japan itself of a new method of turning out a pressed or rolled barley which can be boiled and combined with rice. While the process was apparently known before the war, only about 350,000 metric tons of barley a year were processed and sold in this manner because rice was readily available, but since the war consumption of pressed barley has increased threefold.

The manufacturing process is relatively simple according to details in a recent issue of *Foreign Trade*, published by the Canadian Department of Trade and Commerce. Dust and other impurities are first eliminated from the grain, after which it is refined by scouring and grinding machines. It is then polished and softened by steam, pressed by rollers and finally passed through a cooler-dryer to reduce the water content below 14 per cent. A number of by-products are obtained in the process, including bran for livestock feed, materials used in the manufacture of soybean paste, and seed germ for oil and medicine.

The report indicates that the demand for processed barley in Japan comes largely from rural areas and from the laborer class in urban centers. Barley has been a part of the human diet for many years in parts of southeast Asia and the Far East, but its use as a boiled grain food was limited until the pressed barley process was evolved. Since it may be possible to use the process elsewhere, present progress in Japan is being watched closely by other rice-consuming countries in Asia. The finished product is complementary to rice because it provides the missing proteins, and has the added advantages of being relatively low-priced and of yielding important by-products. The *Foreign Trade* report points out that while there is no "indication as yet that pressed barley will ultimately become an acceptable substitute for rice, the demand may be expected to rise over the next five years because of the present low price of barley in comparison with rice."

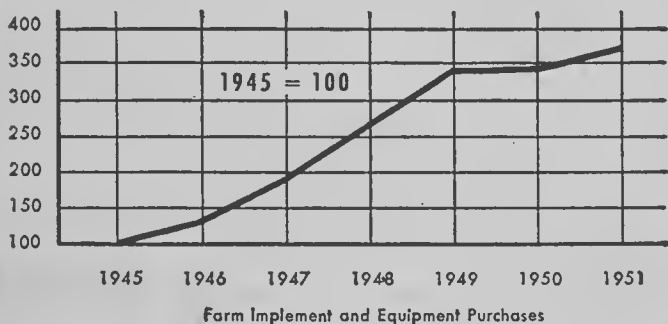
Trade Agreement Involved

First plans of the United States Treasury Department to revise Customs regulations concerning the importation of low grade wheat into that country have been delayed, according to a report by the Washington correspondent of *The Northwestern Miller*, a prominent Minneapolis trade journal. This became apparent when the State Department of the United States expressed interest in the matter on the grounds that it appeared to involve conditions of the Canada-U.S. Trade Agreement of 1938.

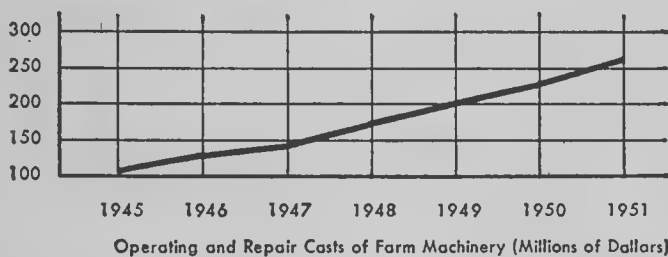
The interests of the Treasury Department was aroused when allegations were made that certain U.S. firms had been making application for the government subsidy payable on wheat exported under terms of the



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COMMENTARY

International Wheat Agreement, after cleaning up Canadian "feed wheat," mixing with American grades and then re-exporting as American grown wheat. Low grade Canadian wheat, defined by the Customs Department as "wheat unfit for human consumption," is imported for livestock feeding purposes, although no control is exercised over its movement after it enters the country.

Although of no immediate concern to the majority of Canadians, certain aspects of the situation are of general interest. Present U.S. Customs regulations limit the importation of wheat for human consumption to 800,000 bushels annually of which 795,000 bushels are assigned to Canada upon the payment of the full duty of 21 cents per bushel. In addition, unlimited amounts of "wheat unfit for human consumption" may be imported on payment of a five per cent ad valorem duty. This arbitrary definition was not formally adopted by the Customs Department until 1935, although it was given legal standing in the Tariff Act of 1930. In effect, it rules that wheat containing more than 30 per cent, by weight, of broken kernels is wheat unfit for human consumption.

It is important to bear in mind that this definition was adopted at a time when the United States was short of livestock feeds following the great drought of the 1930's and the definition was therefore undoubtedly motivated by these considerations. Furthermore the price of wheat was substantially lower at that time and there was no economic incentive for U.S. importers to clean up the lower grades for milling purposes. Possibly, with the relatively higher prices of the present day, along with improved grain-handling and cleaning equipment, the conditions of the mid '30's no longer apply.

It is only during the past two years that Canadian feed wheat has entered the United States in any appreciable amounts, and at present levels the movement represents only a small fraction of the total feed supplies of either country. However, on a number of occasions, Canadian feed grains have been highly valued in the U.S. as a supplement to short supply in that country, a fact which is recognized by the U.S. Department of Agriculture. This department was reported to have suggested to the Customs Bureau that control could best be accomplished through certification by importers that the wheat would be used only for animal feeding purposes.

The trade report referred to states that Canadian government officials "detected in any proposed change a step which would nullify certain concessions which it had obtained in the Canadian-U.S. Trade Agreement." However, what at first appeared to be a simple problem has now assumed wider proportions and existing regulations stand for the time being at least.

Delivery Quotas Relaxed Slightly

Near the middle of January the Canadian Wheat Board announced slight relaxation in grain delivery quotas to assist in the delivery of out-of-condition grain and to assist farmers

in obtaining supplies of registered seed grain.

Effective until further notice, producers may deliver damp or heating wheat, oats or barley at their regular delivery point, regardless of local quotas, provided that such deliveries, when added to quantities already delivered, do not exceed 15 bushels per seeded acre. In cases where the producer has damp or heated stocks in excess of the amounts permitted under these arrangements, elevator companies may accept such grain in exchange for an exact quantity of dry grain. Where this is done, the producer must pay the elevator company the difference in initial price, plus elevator charges.

Where a producer wishes to finance the purchase of registered or certified seed wheat, oats or barley he is permitted to over-deliver the present quota by an amount up to 100 bushels, but this is allowed only at points where the quota is less than 15 bushels per seeded acre. The over-delivery will be included as part of the 15-bushel quota when that quota is reached at the particular delivery point.

The Economic Outlook for 1953

"At present there is little indication of any major change in 1953 from the generally prosperous conditions which prevailed this year in Canada." This is the view expressed by officials of the Economics Division of the Dominion Department of Agriculture in the January issue of the *Current Review of Agricultural Conditions in Canada*. Significant factors tending to maintain a buoyant economy are the defence production programs and plans to develop strategic resources.

It is anticipated that farm receipts in 1953, although high, will be lower than in 1952 if grain yields return to average levels. Lower receipts from the sale of field crops, particularly in western Canada, and lower average prices for livestock would account for smaller total agricultural returns. Some gains are expected for other commodities but these are unlikely to be sufficiently large to overcome the possible decline in grain and livestock receipts. A heavy carryover of the 1952 crop into the current calendar year will tend to offset factors inclined to lower 1953 cash income.

Farm net income is also expected to be lower in 1953 since there appears to be little likelihood of any reduction in total farm operating expenses. In fact, taxes and interest rates may possibly be higher than in 1952.

While this report is generally optimistic, western Canadian agriculturists and farmers are acutely aware of the possibility of an adverse weather cycle. Crop yields in western Canada have been above normal for a number of years and it is unlikely that these conditions will continue indefinitely. As a consequence agricultural officials in the West have warned farmers to retain sufficient seed and feed reserves for at least two years. While we should look to the future with continued optimism, it would appear advisable at this time to add a note of caution in our production plans for the years immediately ahead.

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P F R A Record

Continued from page 9

cost of constructing the pastures had amounted to \$3,426,586. In addition, total operating costs had amounted to \$1,668,397.40, against which was revenue received from all types of fees, amounting to \$2,038,868.

Though all capital construction costs, as well as costs of maintenance and operation, are undertaken by PFRA, the patrons of each pasture appoint an advisory committee which is active in all local affairs governing the use of the pasture. Patrons pay grazing, as well as other fees, such as those for breeding, vaccination and dehorning. The pasture committees have introduced many unique policies having to do with such matters as auction sales, installation of wage scales, improved breeding programs and, in many cases, insurance. In 1951, 33 of the 57 pastures carried insurance covering 44,176 cattle, on which total losses were less than two-thirds of one per cent.

Recent experiments indicate the practicability of greatly increasing the carrying capacity of the pastures during the next ten years, through co-operation between the pasture committees, the grazing and forage specialists at the Swift Current Experimental Station, and the PFRA administration. It is not too optimistic to expect carrying capacity to be doubled by 1962. Important in this direction, also, have been the improved live-stock breeding programs initiated by the bull-loaning policy of PFRA. Since 1938, PFRA has purchased 1,190 bulls for community pastures, as a contribution toward uniform quality improvement. Breeding fees charged to date have more than paid for operating and overhead costs, and in return, the type and quality of cattle owned by the patrons have been substantially improved.

SOLUTION of the problems of the drought area involves many long-term considerations. During its history, therefore, PFRA has been associated, in some way, with most activities on the prairies concerned with these problems. It has made its services available wherever the activities of departments of government, both federal and provincial, coincided with its own principal objective. Thus, assistance was provided prior to 1946, in such projects as soil surveys, economic land-use studies, extended large-scale experiments, and tree-planting programs. For the same reason, it was realized even in 1935, that because the problem of drought is inseparable from the efficient use of water resources, major irrigation and reclamation projects must also be investigated and considered.

The St. Mary irrigation project in southern Alberta, for which the survey and investigations were mainly completed in 1946, was the first large irrigation project. This project will create sufficient water storage to irrigate an estimated 519,000 acres of land, between Magrath, Lethbridge and Medicine Hat. It involves water

storage on three international streams, the St. Mary, Belly and Waterton Rivers, the main storage of 320,000 acre-feet of water being located on the St. Mary River. This storage, representing the first occasion in the history of Canada when a major irrigation project had been undertaken by a federal authority, a provincial government and the farmer, in partnership, was completed in 1951, and officially opened on July 16 of that year.

The agreement made between Canada and Alberta, in this instance, has been generally accepted as the master plan for developing other major irrigation projects in western Canada. Canada assumes the responsibility for the main water storages eastward from the watersheds, to a point known as Ridge Reservoir, where the water is delivered to Alberta for the irrigation distribution system. From that point eastward to Medicine Hat, the province assumes full responsibility for construction, as well as for colonization and settlement. Thus, the province takes the water made available to it by the federal government and, in turn, makes it available to farmers. A charge is made by the federal government known as the "annual water charges" to provide for the maintenance and operation of capital structures. In addition, the province in its colonization plan charges the farmer a "water-right" fee, per acre, plus an annual "water rate," per acre, which provides for the maintenance and operation of the distribution system.

Up to November 30, 1952, the federal government had expended about \$12 million, and the provincial government approximately \$8 million in construction. As the main works are completed, the expenditure of the Alberta government will increase, for the distribution system. The construction of the project should be fully completed by 1955. It should be understood, however, that when all land is improved by land levelling and other necessary measures, and has become completely established, with improvements, in a sound irrigation economy, the total investment by farmers will exceed that of both governments. Already the existing 120,000 acres of irrigated land have been assured a safe water supply for crops by the St. Mary and Pothole Dams. Previously, during the low flow of the St. Mary River, the diversion dam did not always provide an adequate water supply.

IN 1909, a British company, later known as The Canada Land and Irrigation Company, began the construction of an irrigation project, by building a diversion dam on the Bow River at Carseland, Alberta. It was intended to irrigate an estimated 240,000 acres eastward toward Medicine Hat. By 1949, only 57,000 acres has been irrigated; by 450 farmers. The company had run into difficulties and was unable to complete the project. After many discussions between the company and the Alberta government, looking to the completion of the project, the government of Canada ultimately completed negotiations, in 1950, for the purchase of the assets

PFRA Small Water Development Projects Completed


Province	Dugouts	Stock-watering Dams	Irrigation Projects	Total
Manitoba	9,506	301	56	9,863
Saskatchewan	26,149	3,679	1,533	31,361
Alberta	2,705	1,854	751	5,310
Total	38,360	5,834	2,340	46,534

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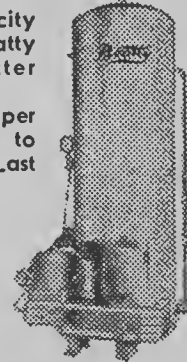
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of the company, for \$2,250,000. The federal government plan is to completely renovate, enlarge and improve the project, and to irrigate the available land. Its main purpose is to develop new land for the resettlement of farmers from crop failure areas on the prairies. Already many applications have been received and negotiations are under way for the resettlement plan.

During 1951 and 1952, the existing project has been enlarged by putting an additional 15,000 acres under irrigation. It is proposed to add a further 25,000 acres this year; and by 1954 it will be possible to deliver water to existing dry-land farmers in a 70,000-acre area known as the Western Section.

A new innovation in irrigation construction has been introduced on this project. The distribution system has been designed on the contour system, rather than by use of standard surveys on township and section lines. Lateral ditches and drainage ditches were combined with the road system, the object being to secure a more beneficial use of water, adequate drainage, and to minimize future maintenance and operation costs, particularly with respect to weed control.

SURVEYS and investigations have been under way in all the main watersheds serving the prairies. Two large projects are the South Saskatchewan River Development, with headquarters at Outlook, Saskatchewan, and the Red Deer project in south-central Alberta, contiguous to Hanna. Investigations for the South Saskatchewan project have been sufficiently completed to appraise the project, and the government of Canada has appointed a Royal Commission to study its feasibility, but at this writing, its report has not yet been made public. The Red Deer project is still in the investigation stage. Most of the engineering surveys have been completed, but more basic information is required on the suitability of the soils of the area. Each of these projects comprises an estimated irrigable area of 500,000 acres. Both are multi-purpose and involve irrigation, power, domestic water supply and recreational features.

It should be noted, also, that the major projects referred to above, are not constructed with PFRA funds. Parliament has set up a special vote, for which funds are appropriated each year. These moneys are administered by PFRA, which provides the necessary engineering services and supervision for all projects. This applies also to other special votes, which involve reclamation and the protection of lands from flooding, as well as special irrigation development in British Columbia, all of which are outside the PFRA area.

There are quite a number of these special projects, but space will permit only a brief reference to them here. For example, several irrigation projects have been constructed for the Veterans' Land Act administration, primarily for the rehabilitation of veterans from World Wars I and II. These are located mainly in the North and South Thompson River Valleys, near Kamloops, and in the Okanagan and the Similkameen Valleys in British Columbia. More than 2,600 acres of new land, divided into small units of from one to ten acres each, have been irrigated in these projects up to the present time.

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Other projects are under investigation at the request of the B.C. government. One reclamation and flood protection project has been practically completed in the Lillooet Valley, near Pemberton. This arose out of the flooding of land, and crop losses to settlers, who were mostly veterans of World War I. Over 14,000 acres of land have been reclaimed by lowering the lake level, dyking the Lillooet River and adjoining streams, and draining water-logged areas.

Extensive investigations have been undertaken at the request of the Manitoba government, looking toward effective flood control on more than 252,000 acres. The cost of the construction program has been shared equally between the federal and Manitoba governments. It centers on Edwards and Mink Creeks in the Riding Mountain region, and consists of the protection of stream banks against erosion, the building of stream cut-offs and diversions, and general exploratory work in water-erosion control.

Before a project can even be considered, it is necessary to co-ordinate an immense amount of technical and other basic information. PFRA is investigating many projects in the four western provinces. Duplication of existing government services is avoided by the co-ordination of existing information.

Engineering in its many phases is important and essential for a project, but it is equally important to have all agricultural information assembled at the same time. No satisfactory appraisal can be made of the feasibility, or the utility of a project, unless the two sciences have been co-ordinated.

The work of PFRA is organized to secure a welding together of the essential engineering and agricultural knowledge required for the satisfactory development of land and water resources. Both experience and common sense dictate this approach to the planning and development of conservation projects. It is the farmer, in the end, who spells out the success of any project. Therefore, in any planning, it is necessary, on the one hand, that a thorough understanding of his problems precede the actual planning; and on the other, that the farmer himself have a proper understanding of the project, because of his primary interest in improving the productive capacity of the land itself.

THIS brief review will indicate to the reader something of the extent of PFRA activities, inside and outside the actual PFRA area. Definite progress has been made in meeting the emergent and immediate problems. Better trained and qualified personnel will make possible even more effective planning for, and the development of, future conservation projects. Today, there is much more basic information relating to our land and water resources than was available in 1935. PFRA is now associated with many boards and committees of an inter-provincial and international nature. Provincial governments have more active programs of extension and education, through their departments of agriculture.

(Note: Since this article was prepared by Dr. Thomson, the Royal Commission appointed to investigate the feasibility of the South Saskatchewan project has reported against the project.—Ed.)

South Sask. Project Report

Royal Commission reports project economically unwise under present conditions of full employment—criticizes lack of long-time perspective

FOR many years, farmers, engineers and others interested in the development of the prairie provinces, have dreamed of a more advantageous and efficient distribution of the limited moisture available in the prairie provinces. Particularly has this been true of the waters which flow from the eastern slopes of the Rockies, and find their way into Hudson Bay through the great basin of the Saskatchewan River.

Many surveys and investigations have been made from 1920 onward. From 1943 to date, a project for taking water from the South Saskatchewan River for the irrigation of the arid and semi-arid lands of Saskatchewan, has been under investigation by PFRA. These resulted in a definite proposal to the federal government that the river be dammed at the mouth of Coteau Creek near Outlook; and that a project, in co-operation with the Government of Saskatchewan, be entered upon which could ultimately water an area of 455,000 acres on both sides of the river.

This proposal was ultimately referred to a Royal Commission, appointed August 24, 1951, consisting of Dr. T. H. Hogg, former chairman of the Ontario Hydro Electric Commission, as chairman, together with Mr. G. A. Gaherty, Calgary, and Dr. John A. Widtsoe, Salt Lake City, Utah, as members, and B. T. Richardson, Ottawa, as secretary.

The Commission was instructed to find: "Whether the economic and social returns to the Canadian people on the investment in the proposed South Saskatchewan River project would be commensurate with the cost thereof;" and

"Whether the said project represents the most profitable and desirable use, which can be made of the physical resources involved."

The Commission found against the project under both terms of reference, stating that:

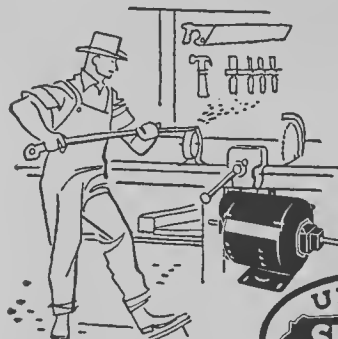
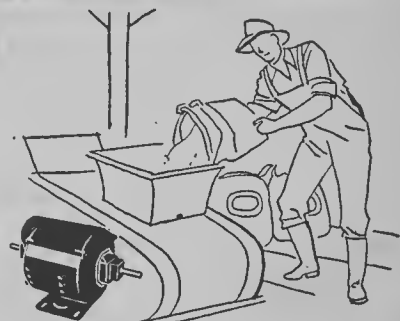
"The Commission finds that, at present, the economic returns to the Canadian people on the investment in the proposed South Saskatchewan River project (central Saskatchewan development) are not commensurate with the cost thereof; though the project would yield social returns which, while they cannot be measured for the purpose of this report, would be of great value to the region in which it is situated."

"... The Commission finds that the available data, which is by no means complete, indicates that the said project does not represent the most profitable and desirable use which can be made of the physical resources involved."

The Commission reports that three main considerations have influenced it. These are: (a) the total cost of the project would tend to place too great a burden upon the land, or upon

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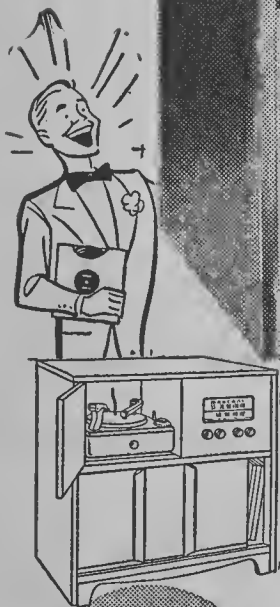
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the farmer; (b) other projects seem likely to afford a more profitable and desirable use of the physical resources involved, and (c) a realistic, nationwide approach is needed.

Two other findings of the Commission need mention at this point:

"... that the future demand for water for irrigation could be such as to exhaust the available flow of the South Saskatchewan River, and recommends, therefore, that without delay, a comprehensive, long-range program be developed, that would result over the years in the most beneficial use being made in the interests of the people of Canada of the waters of the Saskatchewan River from its headwaters to the sea."

"... that to implement a Basin program the conflict between the upstream, consumptive use of the water for irrigation, and its downstream use for generating power, will have to be resolved."

In addition to its findings, the Commission makes a number of recommendations. These are:

1. "... when the time comes that the project represents the then best use of water for irrigation, the present findings should be reviewed in the light of changing conditions."

2. That further study be given to the merits of: (a) irrigating the arid inner core of the Palliser Triangle in eastern Alberta and western Saskatchewan; (b) irrigating additional land in the Saskatchewan River Basin by pumping water direct from the river, and from existing irrigation canals or extensions thereof, and (c) development of the Red Deer River project, including possible extension into Saskatchewan.

3. That for the development of a comprehensive, long-range program for the entire Saskatchewan River basin, appropriate governmental services gather the requisite data.

4. That: (a) agronomic and engineering studies be made of all potentially irrigable areas within the basin; (b) that the feasibility of a diversion of the North Saskatchewan River above Rocky Mountain House into the Clearwater River, and in turn, into the Red Deer River, be determined; (c) that the effects of existing and future irrigation projects in Alberta and Saskatchewan on the development of power downstream on the Saskatchewan and Nelson Rivers be determined; (d) that the possibility of making good, in part, any reduction in hydro electric power as a result of irrigation, by means of a diversion from the Athabaska River basin into the North Saskatchewan River and, also, by a diversion from the Churchill River into the Saskatchewan basin be explored, and (e) that the federal government make available appropriate, administrative and other machinery for completing the required long-range program.

5. The Commission recommends that the resources of the Qu'Appelle River Valley be developed by pumping water from the South Saskatchewan, to furnish municipal water supplies for Regina and Moose Jaw; and to realize, within economic limits, not only irrigation benefits, but social and recreational opportunities as well.

6. The Commission recommends early consideration of the reclamation by dyking and drainage, of some 100,000 acres in the area known as the Pasquia Project on the Delta lands

at the forks of the Carrot, Pasquia and Saskatchewan Rivers, at the Saskatchewan-Manitoba boundary "in order to encourage the orderly, integrated development of an agricultural region that is likely to be of crucial importance in the mineral and industrial development of northern Manitoba and Saskatchewan."

7. The Commission finally recommends the completion of irrigation projects already under construction and, if possible, extensions thereto.

THE estimate of cost made by PFRA in 1947 and revised in 1951, was \$66,460,000 for the dam and reservoir, \$25,100,000 for the irrigation system, and \$13,800,000 for the powerhouse, making a total of \$105,360,000. Against this, the Commission presents estimates totalling \$247,900,000, as follows: Main works and reservoir, \$139,800,000; power plant, \$24,000,000; irrigation system, \$45 million; pumping stations, \$30 million; and land acquisition, \$9,100,000.

The Commission estimates that Saskatchewan's share of the cost would approximate \$100 million. There are now 1,245 dry-land farms within the area, which would in time be replaced by 2,700 irrigation units, averaging about 185 acres in size.

The Commission also estimates that while it would be approximately six and one-half years until water could be turned into the irrigation system, the project, as a whole, would probably not "mature" for between 30 and 50 years. At 35 years, the original capital cost, plus further land acquisition, plus accumulated deficits, amounting to \$190 million, less various credits, would bring the deficit at year 35 to \$310,200,000.

THE Commission comments that "few proposals of public investment have had the advantage of preliminary study on the extensive scale given to this project by PFRA. The reports available to the Commission dealt in a comprehensive way with climate, soils, power, economic benefits, land and development policy, the development of irrigation in Alberta, and recreational aspects."

The Commission has obviously attempted to approach the feasibility and desirability of the South Saskatchewan project from a national-interest point of view. It called attention to the fact that in no instance requiring agreements between the federal government, on the one hand, and the western provinces, on the other, has a question arisen regarding the rights of another province, until the South Saskatchewan River project was proposed. It also criticizes the value of the Prairie Provinces Water Board, established July 18, 1948, calling attention to the fact that the functions of the Board are purely advisory, with each government having a veto power for every agreement which may be reached by the Board itself. Further, there is disagreement on the Water Board and among the governments who are members of it, as to whether the cost of a given project should be the concern of the Board, and whether economic factors involved should be considered by it. Meanwhile, the Board "has considered specific projects without reference to the general requirements for water throughout the prairies as a whole, or to the interests of the country as a whole."

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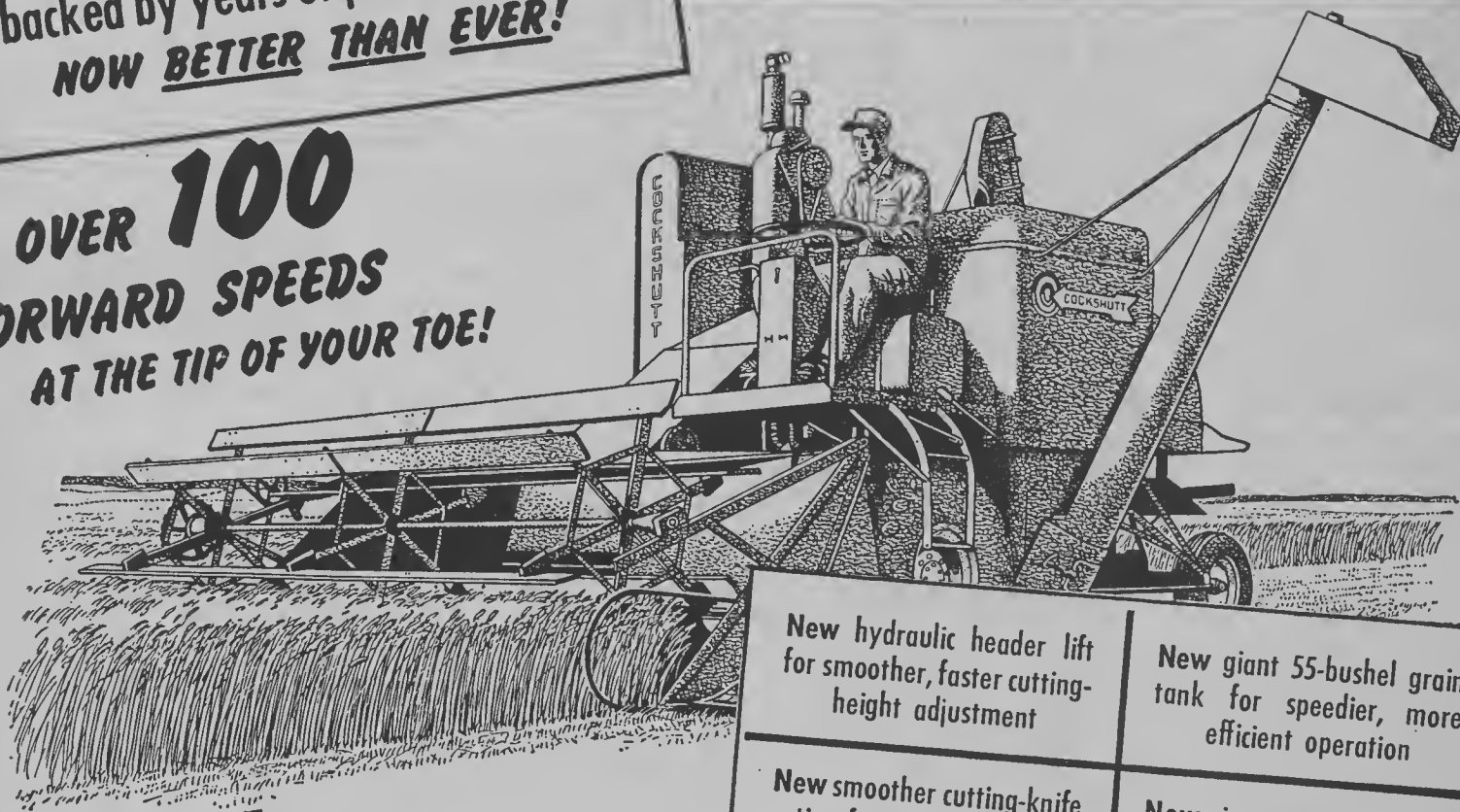
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**Dollar countries should remove excessive trade barriers
and customs formalities. Canada's natural resources
should not be sold or given away.**

Canada's dependence on the world economy, and her responsibility to it because of her increased importance in the world was the main theme of the annual address of James Muir, President, at the Annual General Meeting of Shareholders of The Royal Bank of Canada. Self-interest and high moral purpose, he said, lead in the case of Canada to a common goal: the rehabilitation of the world economy. Reliance on the free price system, he felt, is prerequisite to the removal of numerous obstacles to healthy world trade which exists today.

"Unfortunately the world's economic ills are more easily diagnosed than cured," said Mr. Muir. "The most spectacular symptom is, of course, the so-called shortage of dollars which still persists seven years after the end of the Second World War.

THE DOLLAR SHORTAGE

"In the short run, the dollar countries should act without delay to remove excessive tariff barriers and customs formalities that now present unnecessary obstacles to overseas imports. Canada, especially, has much to gain by reducing the preponderance of U.S. goods among her imports; and at the same time the release in this way of extra dollars to overseas countries would tend to reduce Canada's dependence on the U.S. export market."

In the long run, Mr. Muir believed that a programme of foreign investment in underdeveloped countries could be of great importance in correcting the fundamental economic weakness that lays our allies open to recurring dollar crises. Deficit countries, he felt, would profit through a more friendly attitude to foreign capital.

OUR NATURAL RESOURCES

Mr. Muir made a strong plea that this country's natural resources, especially those which are a source of power, should not be sold or given away. "I wish to make it clear," he said, "that we in Canada should not sell or give away any part of the vast natural resources upon which our long-run prosperity is so largely based. This is particularly true of those resources, such as water, which are necessary to our industrial development, either as sources of power or in the process of production itself.

"It is not surprising that responsible Canadians in the press and elsewhere have drawn our attention to the possible loss of boundary water from British Columbia to Alaska. This is only part of the general picture which must include the shortage of water in a rapidly developing industrial area of the United States. We should, I think, take a neighbourly interest in the needs of the great American northwest; but we will perform a disservice all round if, in an excess of zeal, we thoughtlessly alienate our birthright.

"It would seem to be wise in principle to develop within Canada as much power as possible from the great rivers which, like the Columbia, have their source and major tributary system within our country. The power would then be available to all comers, but it would be a Canadian product."

"EASY" CREDIT CAN BE COSTLY TO CONSUMER

"So called 'easy' consumer credit can be most costly both to the consumer and to the economy as a whole. The effect on sales is immediate and gratifying to business; but repayment of the debt by the public in the future may well result in an enforced reduction in consumer spending on durable goods to a level quite as low and depressing as that which followed our pre-budget buying spree of 1951. If this reduction were to occur along with other deflationary factors, such as heavy inventories and a reduction or a levelling off in armament expenditure, our present boom might seem, in retrospect, an unsound and temporary one. Indeed, the economic pattern today bears no little similarity to that of 1928 and 1929. Then, as in 1952, the expansion of consumer instalment credit played an important part in increasing sales and maintaining retail prices at a time when raw material prices were on a steady decline. The result then, as in 1952, could only be a concealed inflation with its attendant danger.

"I believe that a sounder prosperity in 1952 would have resulted from greater use of the two other corrective devices, namely tax and price reductions. These interact with and reinforce one another in promoting a healthy expansion; in other words, the expansion they promote will not be based on the shifting sands of consumer credit."

ASSETS OVER \$2.6 BILLIONS

T. H. Atkinson, General Manager, in reviewing the bank's 1952 report stated that total assets of The Royal Bank of Canada have now reached the imposing total of \$2,691,456,873. This, he said, was a new high mark in Canadian banking history, and is the highest ever reported by any Canadian bank.

Deposits likewise had reached record totals, said Mr. Atkinson. They now stand at \$2,527,510,437, an increase of approximately \$176,000,000 over the previous year. "This increase," said Mr. Atkinson, "reflects not only substantially higher balances in the names of former clients but has been accompanied by a record making number of new names on our books. The number of deposit accounts on the books of the bank now exceeds 2,250,000, an increase of well over 100,000 during the year."

PRAISE FOR STAFF

"An expanding business inevitably places increased demands on the staff and in the past year we are well aware that at many points our officers have been faced with difficulties which at the moment may have seemed insurmountable. In no case, however, was there the slightest evidence of a breakdown in service to the public and so, on behalf of the executive officers of the bank, I say a heartfelt 'thank you' to the staff. In turn, on their behalf, I have no hesitation in assuring the directors and shareholders that the demands of the future will be met by the staff in the efficient and friendly manner they have displayed in the past."

Another Mary

Continued on page 10

wouldn't admit it, even to himself, John Douglas was beginning to feel lonely.

Some of his neighbors, the ones who had been young when he was young, and had first come to Four Corners, were dead. Some had sold out and gone to live in the city. John felt he would just as soon be dead as living in the city. Hans Ernst, his acquisitive neighbor to the north, badly wanted to buy the Douglas farm. "But I won't sell to Ernst, as long as I've got any breath left in my body," John vowed.

Some of his earliest neighbors were still living on their farms, but few worked hard now. Their sons and grandsons were working the places. John knew all the grandsons, and liked to talk to them.

Engrossed in his thoughts, he drove the big blue sedan into his yard. There was the battered green coupe he had passed on the road and, sitting on the running-board was a young man of about 24. As John stopped the car and

girl. Her wide grey eyes had a peculiar expression in them, too. John thought he might as well get it over with and tell them they wouldn't find work here.

"I suppose Hank Richards told you I wanted a single man," he said, "and I do. I'm not used to a woman about the farm. I don't want anybody fiddling about with my papers and my books. I'm used to getting my own meals, too." He looked at the girl's slender figure, that seemed to droop with sudden weariness, and he said reluctantly, "I'm sorry."

MRS. BECKER looked around at the neat garden with its rows of carefully cultivated vegetables, the lettuce set out so that it would head, the rhubarb patch glowing rosily. Her gaze travelled to the row of sweet peas coming into bloom, the bed of fragrant stocks. "It's lovely here," she whispered. "It's a beautiful place."

Suddenly John Douglas felt an unaccustomed warmth around his heart. He cleared his throat hastily. He saw the girl looking at her husband with some appealing message in



climbed stiffly out, he saw a young woman come from the edge of the garden, carrying something carefully in her hands.

"Oh, look, Fred," she called, "look at this lovely little pink flower. Just like heather bells. Wonder what it is."

Without thinking, John said loudly, "Pink wintergreen, that's what it is," then, as always when he was perturbed, he cleared his throat loudly, and said, "Ha!"

The girl jumped nervously. Two of the delicate pink flowers fell and caught in the edge of the pocket of her light green dress, and hung there. Her grey eyes, as she came up to John, looked shy and uncertain.

Bet Hank Richards gave her a line about me, thought John, and said "Ha!" and cleared his throat again. Before the girl could say anything, the young man came toward them.

"You're Mr. Douglas?" he said, easily and pleasantly, holding out a slim brown hand. "I'm Fred Becker, and this is my wife, Mary."

Even after the long years, the name Mary had its faintly bitter association for John. He nodded his head, and said shortly, "You want to see me?"

The young man's dark eyes regarded him almost narrowly, John thought. He turned and looked at the

her grey eyes. He turned to the young man.

"I suppose you wouldn't want to work for me, and let your wife stay in Dreyton. You have a car. You could drive out, night and morning. I'd be willing for you to do that."

The young man grinned. "My wife is crazier to live on a farm than I am," he said. "Guess you can tell she wants the country. What would she do with herself in a small town, where she knows nobody?"

The girl turned her gaze from the tall poplars that lined the driveway to the house, and looked at John Douglas. "I wouldn't bother you," she said wistfully. "If Fred is going to work for you, couldn't I stay here? Haven't you a shed or something we could live in? This is such a wonderful farm. It's the most like home we've seen since we left the old country."

"We've only been out from England a little over a year," said Fred Becker to John. "We want to farm, ourselves, as soon as we have the money. Maybe if you'd give me the job, Mary could make herself scarce, sort of. She wouldn't be in your way."

John looked at the two of them. Fred Becker was sturdily built, with good strong shoulders and a pleasant open face, although his dark eyes held

a hint of something not quite as ingenuous as the rest of him. In his fawn shirt and khaki slacks, he didn't look much like a hired man, but then, none of them did, nowadays. Put him in overalls, thought John, and he'd fit the part, maybe.

John sighed. There would be hay to cut soon. There were 40 pigs to feed, and five cows to milk. He had to have some help, or sell out. Hans Ernst's fat red face appeared before him, wearing a satisfied smirk. John brushed a hand across his eyes that were still a bright blue, deepset in his thin, tanned face.

He thought for several minutes, then he said slowly, "There's a building down in the bluff. I was going to use it for a chicken house, but the chickens seem to like where they are. It's 12 by 20 feet. You can live in it, if you like. There's an old stove kicking around somewhere, and I could put in some odd bits of furniture and other things you'll need. As long as you don't bother me, you can stay."

At the expression in Mary's grey eyes, John Douglas felt almost ashamed. Surely the prospect of living in a tiny shack, tolerated and practically told to keep out of the way, shouldn't make her look like that. He said brusquely, "Naturally your wages will be higher if you get your meals at home. There is plenty of milk and meat here, and vegetables. It shouldn't cost you very much to live."

"Oh," said Mary Becker, a catch in her voice, her eyes luminous, her cheeks flushed, "Thank you, Mr. Douglas, so very much. Fred will work awfully hard to repay your kindness . . . and I promise I'll keep out of your way."

THERE was no question that Fred Becker worked hard. Although many of John's implements were new to him, he seemed to have a mechanical flair, and as long as he was using the machinery, was on the job, early and late. He didn't seem to like the chores so much, though, and told John, after he had been there a couple of weeks, that he thought feeding a bunch of pigs was foolish.

"All that good grain," he lamented, shaking his dark head as he poured chop into the feeders.

John laughed. It seemed to him that he laughed a good deal more lately than he had for a long time. Fred was a cheerful fellow, always laughing or singing or whistling.

"I've always fed a lot of pigs, my boy," said John. "We called 'em mortgage lifters in the old days. They're still the backbone of the farm, if you ask me."

"They're a headache, if you ask me," said Fred. "Greedy blighters eating up all your good grain."

But John had to admit that Fred looked after the pigs. In fact, he realized the man was an energetic worker to get through as much as he did.

John, working the summerfallow on the west quarter-section, was rarely on the home place except to get his meals and after it was too dark to work. But when he did come home, the chores were always done, the cows milked, the milk separated and fed to the pigs, and even the potato and garden plots were hoed.

One evening, in the store where he had gone for his mail, John couldn't help saying to Hank Richards, "I cer-

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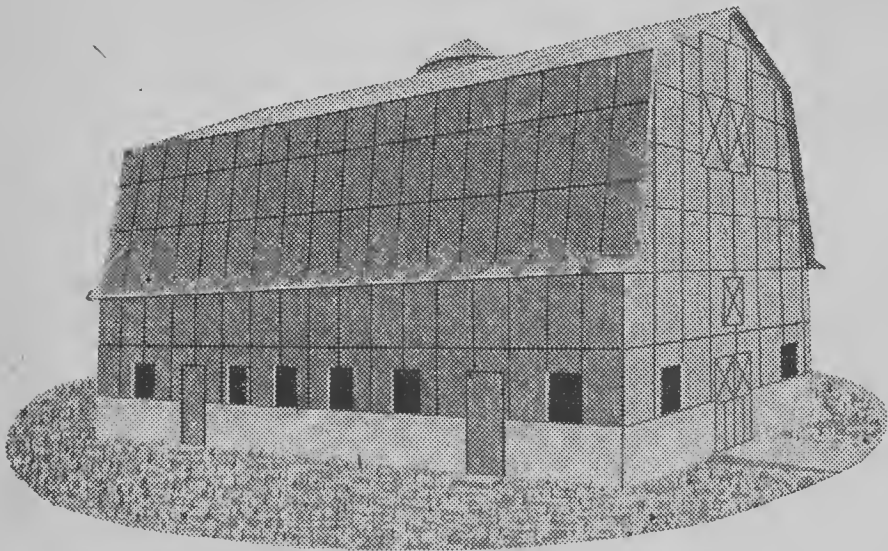
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tainly have to thank you for sending Becker to my place, Hank. He's a great boy to work."

Hans Ernst, who had got his mail just before John, turned from reading his paper and laughed aloud. "That's goot," he chortled, "that's goot!"

John could feel himself getting hot. "What's so funny about that," he said.

Hans Ernst's double chins quivered with mirth. "Nothing," he said. He walked to the grocery counter. "Better you give me my stuff, Hank." Then he turned to John. "You better make up your mind to sell to me, mine friend. You won't be keeping your hired help long. You can't get two hired hands for the price of one."

John took his mail and went out of the store. As he closed the door, he heard Ernst laughing coarsely again. He was not going to explain his arrangement with the Beckers to Hans. It was none of his business.

He thought, I wish I hadn't let the Beckers stay. Then, he was ashamed of the thought. The fellow was a bundle of energy, the best hired man John had ever had. And Mary had kept her place as promised.

FOR several evenings now, there had been little delectable surprises on his supper table, when John came home. Once it was a luscious rhubarb pie, deep and juicy, with a flaky tender crust. Another time there was a rice pudding, cooked just the way he liked it, and a batch of crisp sweet cookies. There was no evidence of the girl around at all, except for the desserts she had fixed for him. She certainly had made herself scarce, as her husband had suggested. The thick poplar bluff hid the little house in which the couple lived from John's view, and he seldom saw her.

John left the house so early and came back so late that he did not see Mary. He was in the habit of coming from the field at 5:30, eating his supper and returning, now that Fred did the chores, to work on the 80 acres in the far west quarter, until dark.

The next evening, he left as usual around six-thirty. When he got down to the bottom field, he discovered that he had left his watch at home. That, in itself, was unusual. John Douglas did practically everything to a set time, and had done so all his life. He missed the watch and, as the mosquitoes were quite thick in the lower 80-acre field, he thought he would leave the tractor, walk back up, get his watch and mosquito dope.

On his way back to the house, he went past the little cottage in the bluff, with its white curtains at the small windows. There was a thin plume of smoke coming from the chimney, but there was no one about. John walked slowly by. He wondered where Mary was.

As he entered the barnyard, he could hear the steady tapping of a hammer in the machine-shed. John smiled. Fred must have done his chores in record time, and was working on the machinery he loved. Then, as John neared the barn, he could hear the distinct sound of milk going into the tin pail, and suddenly he stiffened.

From the open doorway of the barn came a girl's voice, saying, "So bossy! So, then! That's the girl!"

John stood as still as the wooden block that held the huge door from

swinging shut. He could hear the hammering from the machine-shed. That was Fred in there. Then, it must be Mary who was milking!

John dodged behind a little shed as she came out of the barn and went toward the house, carrying a pail of milk with each hand. He saw her slight figure in blue shirt and overalls go into the back kitchen; then he heard the whine of the separator.

He was just going to step away from the shed when he saw Fred cross the yard and enter the house. From his vantage point, John presently saw the screen door open. Then, out they both came, carrying pails of skim milk, going toward the pigpen.

He thought bitterly, "So that's why Fred got the chores and everything done so well." Mary was helping! Mary was working like any common laborer on the farm, and he, John Douglas, who couldn't stand women around the place, had been accepting the help of a woman.

No wonder Hans Ernst had twitted him about having two hired men for the price of one. John wondered how many more of his neighbors knew that he not only had a woman living on the place, but that she was actually working there, like a man.



A wave of hot anger rose in him. He stalked out from behind the shed, and strode toward the house. And there he was, when Mary and Fred came back with the empty pails.

AT the sight of John, standing by the kitchen stove, staring at them, Mary's face turned deep rose color, and Fred's cheerful expression faded. He looked like a boy who had been caught stealing apples.

"Hal!" John Douglas cleared his throat. "You might well look ashamed of yourself, Fred Becker," he said, "letting your wife work like a man, on another man's farm."

"Mr. Douglas," Mary's grey eyes were imploring, and she laid a timid hand on his arm, "please don't be vexed. Please don't blame Fred, either. I wanted to help. I love the farm work. I... like cows. I grew up on a farm, at home in England. Please... we're so happy. Please don't be angry."

John still glared at her, his face set in angry lines. His spirit still smarted at the blow to his pride, yet he felt, stirring in him, a reluctant admiration for this girl.

Mary went on tremulously, "We have tried so hard to please you. I have kept out of your way. But I can't find enough work all day to keep me busy in that little cottage. I would help cut the hay, too, if you'd let me..."

John Douglas almost choked. He ran his gnarled old hand around the

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GEORGETOWN . . . ONTARIO

collar of his plaid shirt as if he wanted air. Cut hay for him, would she? What on earth would his neighbors say to that?

He shook his head as though shaking off troublesome thoughts. "No," he said, "you can't go on like this. You deceived me, didn't you? I guess you'd better quit here. You've made my name a laughing-stock in Four Corners."

Fred stepped forward, his dark eyes flashing. He blurted out hotly, "Listen, Mr. Douglas, it wasn't us made your name a laughing-stock in this place. It's yourself, with your crazy dislike of women."

Mary grabbed the sleeve of Fred's khaki coveralls. "Be quiet," she said.

She looked up at John, and he thought suddenly how much happier she looked than when she had first come, how brown and healthy she was, and his heart softened. Why couldn't he admit he was wrong, and let them stay? But it was hard to go against the principles and thoughts and habits of years . . .

Mary stood, a slight figure in blue shirt and blue denim overalls, looking out of the window, across the garden. She sighed softly, then turned and faced John again.

"We shouldn't have deceived you, Mr. Douglas," she said. "We knew how you felt, and you made that plain at the start. We wanted so much to help. You've been so kind to us. We have felt at home here."

"That's not it," John argued stubbornly. Deep in his heart he knew that he was acting like a miserable, stubborn fool. The farm had never run so smoothly since he had grown old and needed another's help. He knew that he would miss Fred's cheery ways. In the innermost recesses of his being, he knew that he would miss Mary's intangible presence.

But he couldn't forget Hans Ernst's sneers. He said thickly, "You had no right to do it. I wouldn't have let you, if I'd known. I thought Fred was doing the chores."

"Well," said Fred, "you must have thought I was a magician. I was working on the machinery, wasn't I? I was happy. Mary was in her glory. You were getting your work done. What's wrong with any of that?"

"What's wrong?" John exploded. He felt overwhelmed, and the inner struggle he was going through made him the angrier. "I wouldn't have had a woman doing my work. And doing it without pay puts me under an obligation to her. That's what's wrong!"

"Listen, you silly old idiot," said Fred loudly, "if it wasn't for Mary, you wouldn't have anybody working for you at all. You'd have had to sell your farm to that Ernst guy . . ."

Mary turned, her face white. "Fred!" she said urgently, "You promised. Please . . ."

"What's this?" John Douglas stared from Fred's angry face to Mary's worried one. "What are you talking about?"

"This is what it is," said Fred, shaking off his wife's restraining hand. "The day we came here, we weren't looking for work on your farm. We had already got a job in prospect. We came out, looking for Mr. John Douglas."

JOHN sat down heavily in the old brown leather armchair. He felt a bit dazed. "For me?" he repeated

stupidly. "You were looking for me? You didn't come for work? Then what did you come for?"

"Hank Richars at the store told us you wanted help. Mary persuaded me to let you think we had come from the employment office, that they'd sent us out here."

Mary said gently, "Let me tell him, Fred." She moved closer to John, and stood looking down at him. "Mr. Douglas," she said softly, "Mary Sander-son was my grandmother. She died just before we left England. She came through the blitz and what we've had after. Before she died, when she knew we were coming to Canada, she asked me to try sometime to find you. We had your address from your brother, but we didn't think we should write to you . . ."

John looked up into her young and compassionate face. Mary went on gravely. "At the employment office, we saw your name, and it gave the same address as we had. We figured you must be our John Douglas."

Her soft voice faltered, then went on chokily, "My grandmother said I had to give you her love. She said, 'Tell him I made a mistake. I've never stopped thinking of him, through all the years . . .'"

John saw the girl's grey eyes filled with tears. "I don't suppose you will ever forgive her, but she hadn't an easy life. And she was so brave, so very brave . . ."



"Ya can't beat it, Ed. Besides the feed and the material, they now enclose a pattern for a dress!"

John Douglas swallowed a huge lump in his throat. Mary still stood, looking down at him. He could see tenderness and understanding in her gentle eyes. She was Mary Sander-son's granddaughter. His heart beat heavily, as he thought she might have been his own. Then Fred would have been a kind of grandson—a grandson to help him work the farm.

But Mary had helped. She had come to find John Douglas, and she had stayed to help. It came to him that he had been a bigot and a fool!

Mary, his Mary, was dead. She had died thinking of him, and sent a message to him. And across the sea had come her granddaughter—Mary Becker, who loved her husband, and loved the land—who might even, someday, love John Douglas, as though he were her own grandfather.

John got up slowly from the chair. He faced Mary and Fred. He said, "I've been thinking . . . the cottage is all right for the rest of the summer. But, come fall, you two had better move into the house. It'll be warmer and more comfortable, and we'll be company for each other."

Diversification Cuts Losses

Eggs in several baskets stabilize farm income

by RALPH HEDLIN

THE Hammer brothers of Olds, Alberta, have several ways of ensuring an income. They farm a lot of land—some 1,600 acres—but hedge against the danger that a big farm could cause big losses. If their 575 acres of creeping red fescue fails to set seed, and this often happens, they can use it as forage to carry their 250 head of feeders. If cattle prices break, as they did in 1952, they have oats and barley to market. If the coarse grains let them down, they can ship cream from their small Holstein herd. If everything should fail they will, like Job, have to wait patiently for a release from their misfortunes. However, they share with Job the

comforting knowledge that it would take a series of devastating blows to prostrate them, and even with such blows they, like Job, could stage a speedy comeback.

The fescue is given every opportunity to produce. The initial seeding is made in mid-June at the rate of three and one-half to four pounds per acre, mixed in the drill with cracked wheat to make it run. The grass, with six-inch row spacings, will be up three or four inches in the first year, and could and should set seed in the



One operation threshes fescue and piles straw.

second. The greatest probability of a seed-set is in the first half of the seven or eight years the crop is down. If luck is good the yield may run in the neighborhood of 350 pounds per acre; in the fall of 1951 seed was selling for 48 cents a pound, but their fields did not set. Last year the price was down but the fields yielded heavily.

When there is a yield they swath the tall, seed-bearing stems that rise high above the lush grass. The seed stems lie for six or seven days, and then are straight combined. The straw is piled with a barge box on the back of the combine, and later is cut up into one and one-half inch lengths, mixed with chopped straw, and fed to the cattle.

The number of feeder cattle depends, in part, on whether or not the



[Guide Photos

Some of the feeders in front of the Hammer brothers farm buildings.

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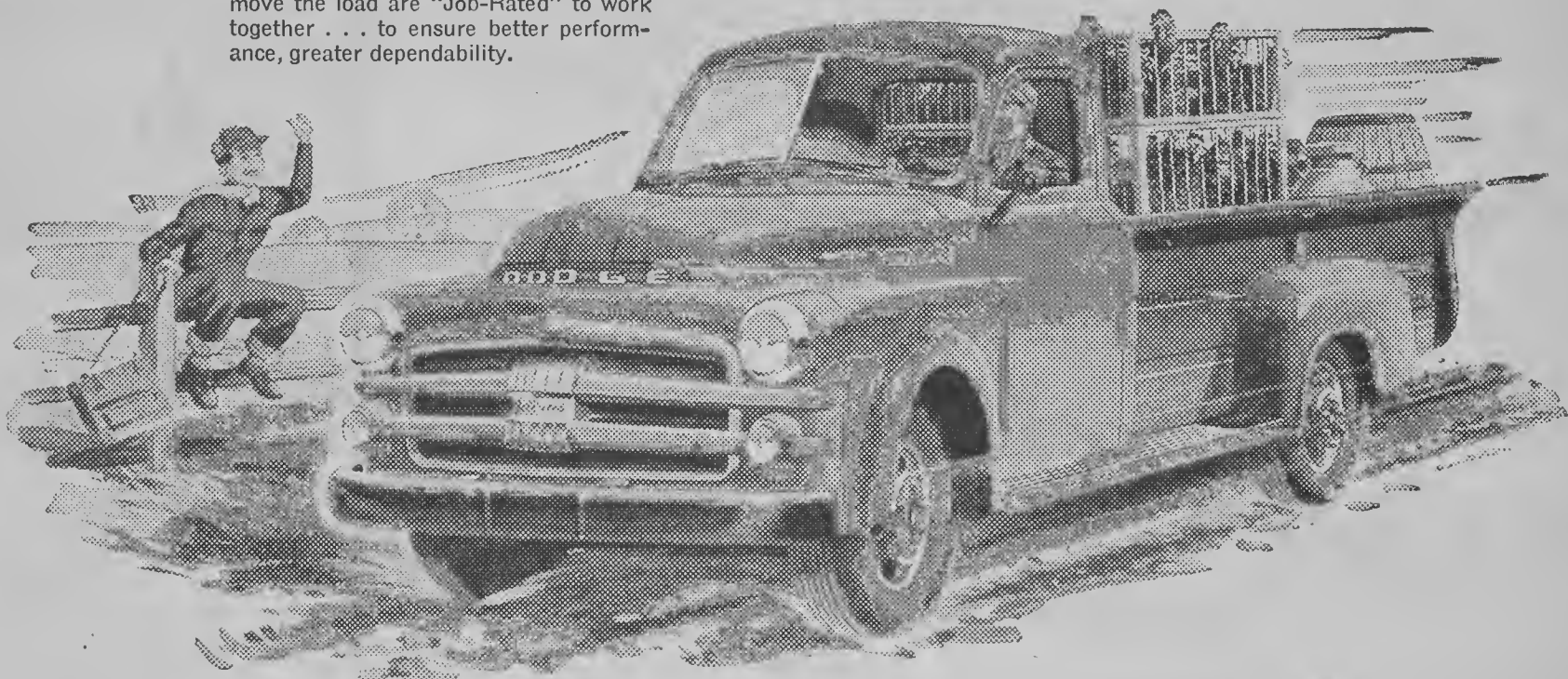
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How is this possible when general living costs have streaked upward to a point where they are 53% higher than in 1945?

Finding oil in our own back yard is the answer.

By discovering new sources of oil, the oil industry has been able to hold the price line on products in spite of tremendous increases in the cost of searching for and producing oil, and of transporting, refining and marketing.

Last year, for instance, consumers on the prairies paid \$55,000,000 less for petroleum products than they would have paid if new oil had not been found. This is another example of the benefits arising from new oil production.

** Based on prices at principal cities.*

CANADIAN PETROLEUM ASSOCIATION

FORMERLY WESTERN CANADA PETROLEUM ASSOCIATION

fescue sets seed. In June or July they alert a Calgary commission firm to start buying them some stock on the yards. By mid-June they can judge fairly accurately the probability of a seed set. As soon as they know there are fields not setting seed, they relay instructions to Calgary to pick up some extra 700-pound long-yearling feeders. If they miss the income from seed they move smartly to offset it with cattle income from extra grazing on the seedless forage crops.

There are incidental returns. The cattle-fescue combination checks erosion; also quite heavy grazing in the fall appears to increase the seed-set the next year.

The grazing is not necessarily over when the snow flies. The fescue goes under the snow green, and judicious snow-plowing has allowed the cattle to do their own haying well into the winter months.

Even when a sleety snow halted this feed program in December, a year ago, the work load was not heavy. The needs of the cattle were met by the full-time services of one man, supplemented with the one-day-a-week assistance of two others. The key to this efficiency is a well-planned set of self-feeders.

The light oats fed in the fall feeding period, as well as the high proportion of barley in feeds given later, are fed through a self-feeder. Twice-a-day hauling of bags or boxes of chop gives way to once-a-week filling of self-feeders. The forage, chopped into one and one-half inch lengths, is also made available through self-feeders. The two self-feeders—one 16 feet square and 10 feet deep, the other 32 by 8 by 10 feet deep—are filled only once a week.

The winter rations of protein supplement, bone meal and salt are trough fed, and require slightly more attention. The water has to be taken from wells, which requires some work, but the labor demands of barn cleaning are trifling. The cattle are not housed, but can lie down on bedding in sheltered areas, or in an open shed, and annual cleaning is all that is required. Naturally the 22 head of Holsteins, of which six are milking, make much higher labor demands per animal than the feeder herd.

NEEDLESS to say the Hammer brothers did not produce the present system full-blown and perfected. At one time there were seven partners in the business, and though all but Howel and William are now out of the partnership, the other brothers can claim some credit for the present efficient methods.

Actually the partnership was well into fescue growing before the extra bow-string of seed production was added; they originally grew fescue for grass and hay. Starting with corral feeding they followed this labor-consuming method until the self-feeder and outdoor housing combination was evolved. For some years the brothers fed calves, but digestive troubles and a long feeding period forced them to more mature animals; now only five or six per cent of tail-enders have to be run out of the feedlot for feeding a year later.

With the aid of diversification the Hammer brothers have controlled soil erosion, they have minimized labor costs, and they have hedged against vagaries of price and weather.

Tanya

Continued from page 12

What could have happened to her on the river? She could swim, and the river wasn't wide. Surely she could have made it to the bank if anything had happened to the boat. Had she gone on the lake? That seemed the most reasonable explanation. The boat could have capsized there.

His face was grim when he headed out on the lake. There was only one answer. Tanya was dead. Whether it was deliberately done or she had met with an accident no one would ever know, but she must be dead.

He tied up at the dock, went to the Post, and strode in without knocking. Joe was reading. At the sight of Mac's face he got to his feet.

"What's wrong?"

McTavish swallowed suddenly but his voice was calm when he spoke.

"It's Tanya. She's missing. She isn't in the cabin, and as far as I can judge she hasn't been there since Tuesday afternoon."

"Missing! How do you know?"

"I left a note Tuesday when I was there last, and it's still in the same place, propped against the lamp just as I left it. Had she come home she would naturally have lit the lamp and she would hardly prop the note back



"I realize Alfred is a perfect gentleman, dear. I'm just worried about your having a good time."

against it. There wouldn't be any object in that. I brought groceries and left them on the kitchen table, and they haven't been touched. They're in exactly the same place where I left them. I remember the tea fell on the floor and I stuck it on the top of the pile, and that's where it was. She wouldn't leave the groceries on the table for four days. I found your note under a stone on the back porch. The outboard is missin'. Shall I telegraph George?"

Joe paced up and down the floor. "No, not yet. We'll search first. She may have gone into the forest and lost her way. That's easy enough. First we must find the outboard. It will give us an idea where to look."

He stopped and faced McTavish.

"Mac, will you go to Mrs. Robertson's and ask her to stay here with father? Get the other men, those who own boats and we'll organize a search party immediately. Get every available man you can find and tell them to come to your place. I can't risk disturbing father by having them come here." He looked at his watch. "We've got two hours of daylight left. That will be time enough to search the shore and part of the river. I needn't urge you to hurry. You know that every minute counts."

McTavish hurried out without another word.

JOE went up to his room and put on a sweater and a leather windbreaker. He pulled out his heavy boots and laced them on. He refused to let himself think of Tanya spending four days and three nights in the forest, alone and probably injured. He fixed his mind on one thing and one thing only. She must be found. She would be found if he had to walk over every square inch of the forest.

He heard the front door open and went downstairs to meet Mrs. Robertson. She had lost no time in coming. He faced her questioning eyes and said:

"Tanya Ellis is lost. Can you stay all night? Good. Father will sleep. McNulty keeps him pretty well doped up and he won't give you any trouble. Thanks for coming."

He hurried out without waiting for her to reply.

At the Hatchery he found some ten or twelve men waiting. He faced them and talked quietly and quickly. Every minute counted now.

"Men, Mac has told you that the girl from the Lodge is lost, and has probably been lost since Tuesday afternoon. She went out on the outboard motorboat and she's either gone west on the river, or north along the lake shore. Did any one of you see her or the boat in the last few days?"

No one answered. They sat watching Joe, waiting for him to go on.

"Very well. Now here's what we'll do. Wolfe, you take two men with you, and go north along the shore, keeping as close as you can to the shoreline and keep your eyes peeled for any signs of the boat, or wreckage that may have been cast up on the shore. Investigate anything that might possibly be a clue.

"Ralph, you get two men and follow the shore going south. I doubt if she went that way, but we can't take the chance of missing her. Mac, you take five men with you and go to the island. She may be marooned there. Circle it first, and search the shore, and call as loudly as you can. If she doesn't answer, go on the island and spread out in two's until you are positively sure she isn't there. I'll take the rest and go on the river. We'll meet here when it becomes too dark to go on. Are there any questions?"

No one said a word.

"Good. Let's go."

Martha and Miss Glover watched them file silently out of the house and head for the dock. Martha's lips were moving in silent prayer. "God speed! God speed," she whispered.

For once Miss Glover showed a little tact and asked no questions. There was something formidable about Martha's face.

The boats roared out of the harbor, each one going to his own allotted destination as fast as the engine would allow.

Joe went up Pelican River keeping close to the north bank. Johnny Ottertail and Doug Shorting were with him. They shouted every few minutes and turned the motor low and listened for an answering cry that never came. There was very little conversation.

When it was too dark to see the bank, Joe turned the boat around.

"No use going on any farther tonight. We'll start again at daylight. We'll follow the other bank up to this point and then switch over."

No one spoke on the homeward journey. Doug thought of the girl who had helped him and vowed he



"Our Valentine Party included 70 Ayrshire cows!"

says Mrs. E. L. McConnell of Wellington, Ohio

"Diane and I had fun preparing for her party," Helen McConnell explains, "but on a farm, chores have to be done even on special occasions, so plans included time for the cows and shipping off the milk."

Helping on the farm and being a housewife and mother still leave Mrs. McConnell time to be a charming hostess—with soft, party-pretty hands. "Thanks to quick, effective Jergens Lotion," says Helen.



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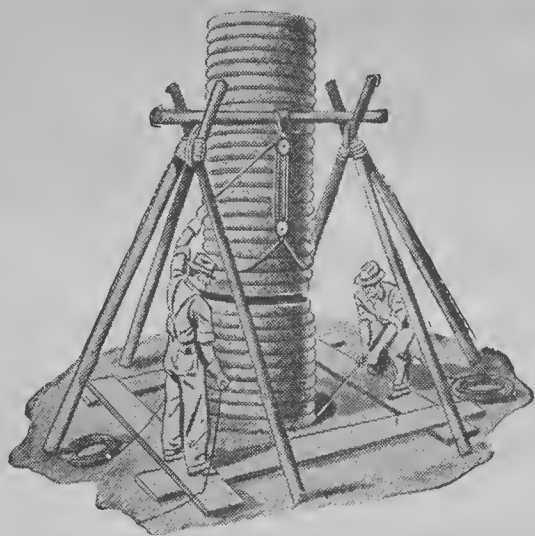
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C.G. 2

would search until she was found, if it took him a month. Johnny wondered if they would reach her in time. By now she would be weak from hunger and exhaustion, and probably roaming deeper and deeper into the forest, hopelessly lost.

If she had capsized in a storm on the lake, her body might never be found. There were strong currents in Lake Winnipeg, that by now would have carried her body 50 miles away or farther. But he would search as long as Joe did.

Joe's mind was busy organizing the search party for the morrow. If none had seen any sign of the girl or the boat, one party could go north along the shore and search while the rest would be divided into groups and search the forest. George would have to be notified in the morning if she hadn't been found. He would telephone McNulty and tell him to stand by, ready for an emergency call. Never once did he allow himself to think that her disappearance was due to anything but an accident.

The other boats were all back in the harbor when the *Rover* pulled in. The men were standing on the dock and Joe knew by their silence that no one had any news to relate. They assembled in the kitchen at the Hatchery where Martha and Miss Glover waited with hot tea and lunch. Martha met Joe's eyes and turned quickly away. They hadn't found her.

"Sit down, all of you and have something to eat," she said and bustled about filling the cups.

Everyone looked at Joe.

"None of you see any signs of the boat?"

Someone answered, "No."

"Any wreckage?"

"No."

"Then we can discount the island altogether and the south shore. How far did you go, Ralph?"

"Three miles south of the Landing. We stopped there on the way back and asked if anyone had seen a girl in a boat going by in the last few days, but no one had. It's pretty settled along there, and they'd notice it right away if anything drifted up. I think we should abandon that side and concentrate on the north."

"Right. Tomorrow we'll meet at dawn on the dock. Anyone is free to back out if he wants to, of course. Just say so, and we'll get someone else."

He scanned the sober resolute faces before him. All wore the same expression. He nodded. "Thanks," he said in a low voice.

"We'll get volunteers from the Landing and Sandy River and ask them to be here at seven in the morning. No use starting before. Maybe you'd phone, Mac."

McTavish cleared his throat. "Yes, I will."

Joe pushed back his chair and stood up. "That's all for tonight. Thanks for the tea, Martha."

Johnny stopped him at the door. "You goin' home?"

"No. I'm going to the Landing to telegraph for a plane and send word to her people."

Johnny's voice was low when he spoke. "I'll go with you." His brown eyes were entreating.

"Okay, Johnny," Joe said briefly, and went out.

Johnny did not make the suggestion that Joe could save the trip and telephone to the Landing. He knew that

Joe was driven into action by a strong force that would give him no rest until the girl from the Lodge was found, and going to the Landing would shorten the long night that lay ahead.

WILLOW slipped out of the cabin and hurried toward the Hatchery. She hid herself behind the lilac bushes that grew in Martha's back yard and watched the activity going on at the Hatchery that was ablaze with lights.

The men came and went in a steady stream and it seemed as if the whole village was assembled in the yard. There was an air of suppressed excitement everywhere. What did that mean? Willow asked herself. Had they found the girl?

Her heart thumped painfully as she inched her way closer to listen to what was being said. She had to know.

Charley Stran's voice drifted to her as he was saying—"up the river, but they couldn't find no trace of her boat. My guess is she's dead." Willow sighed. She hadn't been found—there might still be time—she must have more time. She slipped away and ran to the shore.

The girl couldn't be dead—not yet. Nobody could starve to death in four days. She stopped, struck by a sudden thought. If she opened the trap door, how could the girl get back to the Lodge? It was about 30 miles from the fort and the forest crowded right down to the high river bank most of the way. She would never make it walking.

Willow cursed under her breath. Was there no end to the difficulties that faced her, that blocked her efforts to undo the work of a moment of madness? She would have to steal an outboard and go this very night and take the girl back herself.

Surely if she dressed as a boy and hid her hair under a cap she could fool Tanya who had never seen her. She would take her father's rifle to be sure that Tanya did as she was told. But supposing the girl had gone mad by this time and attacked and overpowered her rescuer? Willow clutched the branch of a tree and swayed back and forth.

It was very late when the lights in the Hatchery were out and the crowd dispersed.

Willow waited until everything was quiet before she went to the pier where the boats were tied. She was desperate and ready to go to desperate lengths in order to release Tanya.

She must get a boat and the only way to get one was to take it. She could slip out of the harbor under cover of darkness, and no one would wonder at hearing a motor so late at night, but would suppose it was one of the volunteer searchers homeward bound.

What she would do after that, Willow had no idea. It would take her seven hours to get to the Fort and back and by that time it would be daylight and the theft discovered, but she had to take the risk.

Once Tanya was back in the Lodge she could decide what to do with the boat. She shuddered when she thought of what she might find at the fort.

She was climbing down the rungs that were nailed against the pier when the low murmur of voices reached her and she saw the glow of a cigarette as someone approached. She scrambled up again and darted behind the light-house.

"OPERATION ALUMINUM"

Kitimat

KITIMAT ...half way

The first stage of the big aluminum development at Kitimat — 400 miles north of Vancouver — is moving ahead on schedule. KENNEY DAM is finished and water is rising in the 350-square-mile lake it is creating. The ten-mile TUNNEL, with a drop sixteen times that of Niagara Falls, is now driven about one-half of the way through the mountain toward the half-completed KEMANO POWERHOUSE. Rock miners, working under a mile-high mountain, are carving out a cavern three city blocks long, preparing the way for the installation of three 150,000 h.p. generators. TRANSMISSION LINE work is well advanced; the fifty miles of right-of-way between Kemano and Kitimat has been cleared and many of the 250 towers erected. The SMELTER is steadily rising in the cleared forest site. Target date for the first pour of aluminum is spring, 1954. Operation Aluminum in British Columbia is on schedule!

Peribonka

PERIBONKA ...nearing completion

The new CHUTE DU DIABLE powerhouse on the Peribonka River, in the Saguenay district, is in full operation. Its five 55,000 h.p. generators are now feeding power to Alcan's smelters in the Saguenay valley. CHUTE-A-LA-SAVANNE, downstream from Chute du Diable, is also rapidly approaching the day when all five of its generators will add 270,000 h.p. to the Saguenay power network. ISLE MALIGNE smelter addition is now in production and its full capacity is available for civilian and defense needs. In 1953, Alcan's four smelters in the Province of Quebec will produce over 1 BILLION POUNDS of aluminum ingot for the markets of the free world.

In the fifty-two years since the first Canadian aluminum plant opened at Shawinigan Falls, Canada's aluminum industry has grown to be the second largest in the world; and Canada now exports more aluminum than any other country.

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CG-6

Two men stepped into the cabin of a large boat and settled themselves in their bunks, discussing the day's events. Willow stood behind the lighthouse and waited for what seemed to her hours before she realized they intended to spend the night.

Far out on the lake she heard the sound of the *Rover* returning and she hurried homeward cursing her father who was still at Pier's Landing, cursing the two who slept soundly at the pier and cursing the ill luck that had brought her into this predicament.

THE wind whistled mournfully through the broken window in the room where Tanya lay tossing restlessly on the floor. Sometimes she fell into a fitful sleep and dreamed that she was back in a cave with a native woman who refused to give her a drink of water. Chuck was dead, and Elise was dead. They were all dead except herself, and the native woman refused to let her die. Tanya sat up and groaned. Her body ached all over from lying on the hard floor. It was bitterly cold. She huddled in a ball and tried to stop shivering. Was it almost morning?

She tried to get up but the floor seemed to be moving beneath her and she could not stand. There was a strange roaring in her ears, a roar like the waves of the lake on a stormy night as they beat on the shore.

She crawled on her hands and knees to the window and groped for the bench to steady herself. Her body swayed drunkenly as she tried to stand. Where was the window? She grasped a jagged edge of broken glass that cut deeply into her palm, but she was scarcely aware of the pain. The cold wind blew on her face. She could see nothing outside.

"Water, water," she muttered incoherently, "just one drink of water. Joe, oh, Joe, give me water! Please give me water!"

She felt herself falling, falling into a bottomless, black pit, then she struck the floor with a dull thud.

The wind howled mournfully through the broken window and rattled one fragment left in the frame. The fourth day was over. It had begun to snow.

SATURDAY morning found Pelican Bay covered with a fine white blanket. Winter had come overnight.

Martha looked at her frost-bitten flowers and thought of the girl who had spent the cold night wandering somewhere in the forest. Where had Tanya found shelter during that long bitter night? Would they find her today? She looked out at the grey and stormy lake and shuddered.

At the point she saw the boats from the Landing and Sandy River bringing volunteer searchers to the Bay.

The men gathered at the Hatchery, some 50 strong, eager to help, and listened as Joe briefly explained his plan. They would walk through the forest starting at the river and beat their way northward, keeping always the same distance apart. Anyone finding a clue should use the scout whistle he had distributed to each, blowing three times, and everyone would go in the direction of the whistle. At noon, if the search was still on, they would take a half-hour off for lunch, and proceed northward again on the dot of twelve-thirty. On no account was anyone to wander from the sound of the next man's voice. Before it grew dark they were to head back for the

river where boats would be waiting to pick them up. In the event of the girl being found, the whistle at the mill would be blown and they would know that the search was over. McTavish would be in charge of the men in the forest.

The boats roared out of the Bay in a long line, headed north.

Miss Glover watched them from an upstairs window, thrilled at the sight. Surely they would find her today. Surely of all these men one would stumble on the right place and bring back Tanya Ellis.

EVELYN Winspear was upstairs making the beds when the door bell rang.

"Ronny, you answer it," she said to her small son.

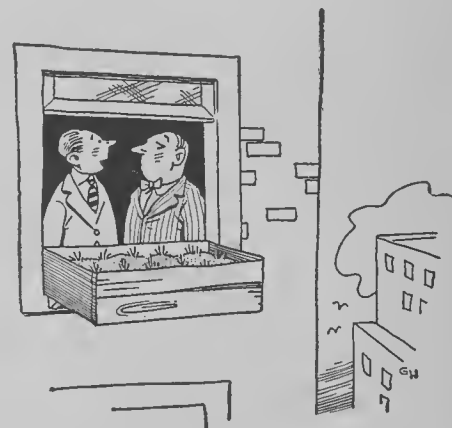
The little boy clattered downstairs and opened the door.

"Mom," he called, "Mom, it's a telegram!"

Evelyn hurried downstairs and tore the telegram open. Tim! Her son! Had anything happened to Tim?

"Dear George: Tanya missing four days stop everything possible being done stop have wired for a search plane stop please advise stop
Donald McTavish"

Evelyn walked into the living room and sat down. So it had happened at last, this terrible thing that she had tried to push out of her mind. She had known it from the moment Tanya first



"But I was under the impression you owned more land than this!"

expressed a desire to go to the Lodge and she had done everything in her power to divert the blow that had now fallen upon them. Tanya had taken her own life. She had never intended to come back. Evelyn sat dry-eyed and motionless in the chair, thinking of the girl who had come back to them from overseas, the girl who wasn't really Tanya.

She roused herself at last. She must phone George and let him know. She dialed George's number and waited.

"George? This is Evelyn speaking. You just got a telegram from McTavish at Pelican. It's Tanya. I'm afraid it's bad news."

"Read it to me, Evelyn."

In a calm, steady voice, Evelyn read the telegram, enunciating every word with exaggerated clearness. When she was through she asked, "Shall I send him an answer?"

"No, wait for me, Evelyn. I'll be home in fifteen minutes." He drove as fast as traffic permitted and hurried into the house.

"Pack a bag at once, Evelyn. We're leaving on that search plane if we can contact it in time, and if not, we'll charter a plane to Pelican."

He reached for the phone and dialed a number.

"Long Distance? I want to put in a call to the Central Northern Airways at Lac du Bonnet."

Evelyn waited to hear no more. She ran up the stairs with tears rolling down her face. Tanya was beyond their help.

THE *Rover* skirted the south bank of Pelican River without finding any trace of the boat or Tanya.

The men were already spreading through the forest, calling at intervals but no whistle was heard. Noon came and a halt was called for lunch. They were almost ready to start again when they heard the drone of a plane overhead. The sight of it renewed their hopes. The plane could cover miles of territory and surely it would spot the boat. Once the boat was located the search would be narrowed and eventually the girl would be found.

Tanya heard the plane and lifted her tired eyes to the sky never dreaming that it was bringing Evelyn and George to Pelican Bay to join in the search for her.

She had taken her post at the window and was watching the river. In spite of hunger and thirst and cold she hung doggedly to the window, although her hopes of rescue were long since dead.

She knew she had been feverish and delirious during the night, and she knew she could not last much longer. The periods of rationalization would grow shorter and shorter until she lost track of everything. She could not be sure what day this was, whether it was Saturday or Sunday. She felt as if she had been in the lookout for many torturous weeks.

The plane flew out of sight and Tanya fixed her eyes on the river, forgetting the plane. Now the river had

ceased to exist as a hope of rescue. It was just water to her, precious water that she longed for so desperately but could not reach. Her cigarettes were gone and she suffered from constant hunger pains. Her tongue was swollen and furrowed, her lips cracked and bleeding. She dropped her head on the window sill and dozed.

IN the afternoon when the *Rover* had just passed Spirit Rock, Doug Shorting lifted his head and listened.

Joe shut off the motor and waited. Far off, behind them, came the steady chug-chug of a boat on the river. Joe started the *Rover* and headed back at full speed. His heart leaped when he saw the *Jolly Canuck* coming toward them. They drew up alongside of one another and McTavish shouted excitedly.

"They found the boat, Joe, pulled up on the shore into the bushes about six miles north. No use you goin' any farther west. She never went on the river. She must be lost somewhere in the forest."

The two boats raced with engines wide open to the lake.

Joe picked up the blue kerchief lying at the bottom of the boat and put it into his pocket.

"All right, men," he said crisply, "spread out as you did before and go due west, half of you on each side of this spot. Keep going until you hear the signal to turn back."

Joe walked in a straight line from the boat with Johnny beside him. The sight of the boat gave him renewed hope. At least she wasn't in the water. That was the one thing he had feared. Yet he was puzzled. What had made

her drag the boat such a long way? Why had she wanted it hidden from view?

The search went on until darkness forced them to turn back.

So the fifth day came to an end and Tanya was still missing.

Martha met him in the doorway. He shook his head in answer to the question in her eyes.

"We didn't find her, Martha, but Fisher found the boat pulled up on the shore north of the river. Don't cry, Martha, we mustn't give up hope. I'll never rest until I find her. How's father?"

Martha blinked rapidly. "Resting now. He tries so hard to talk. I think he was waiting for you. I told him you had gone away on urgent business. I thought it best not to tell him the truth."

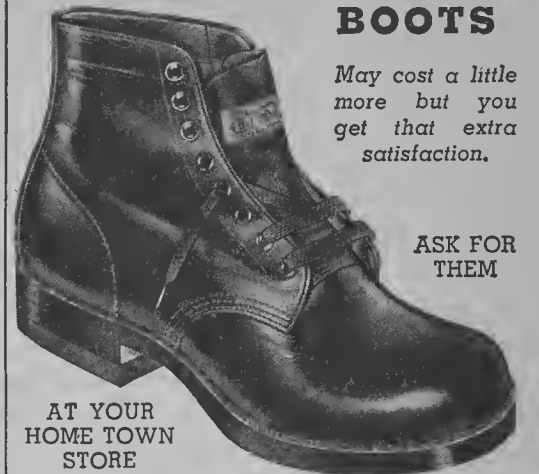
"You were quite right, Martha. Nothing would have been gained by it. He would just worry and he can't stand that now."

He sat down at the table and looked at the food, he couldn't eat. Had Tanya found any food? As long as she was near water she wouldn't suffer too much. That was one consolation.

"Eat, Joe," Martha urged him gently. "You must eat to keep up your strength. You may be out all day tomorrow, God grant that you won't have to, but you had better be prepared. I don't imagine you slept much last night, and you'll need food all the more because of it. You can't go on sheer nerves for any length of time."

She sat beside him and forced him to taste the tempting meal she had prepared. She told him that George

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ALMOST 2 OUT OF 3 FARMERS NAME GOODYEARS AS NEXT TRACTOR TIRE PURCHASE

Canada-Wide Survey Conducted by Independent Group

A representative group of farmers in every province was recently asked: "When you next buy a tractor tire what make will you buy?"

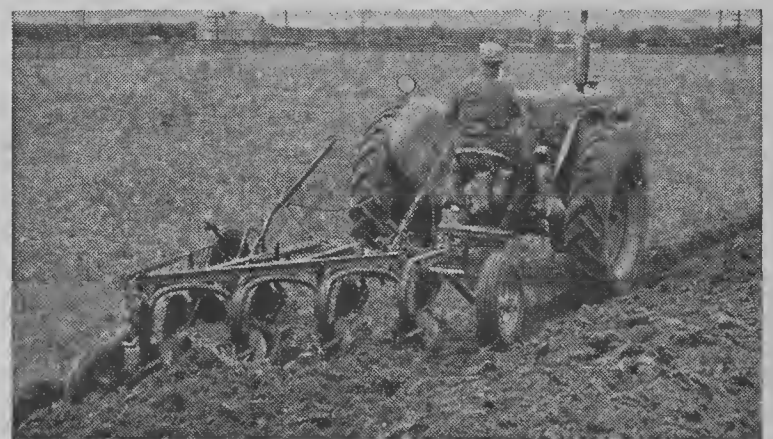
Among owners of all brands of tractor tires almost two out of three who replied to this question said that they will buy Goodyears

next.

While Canadian farmers now use more Goodyear Tractor Tires than any other brand, the survey figures show still more farmers are switching to Goodyears because they give much more satisfactory performance than

other makes.

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and Evelyn had arrived on the plane and George had been out all afternoon searching the lake and flying low over the shore.

Martha left and shortly afterwards Mrs. Robertson arrived.

They looked in through the open bedroom door at the quiet figure in the bed.

"He's sleeping. I'll sit here and knit, so I can hear him if he moves. Now you get off to bed, Joe."

Joe thanked her and walked upstairs.

He smoked in the darkness, going over the day's search in his mind. Had they made a mistake somewhere in their plans? He thought of the Lodge. Had Tanya left a note anywhere that Mac had overlooked? Could Tanya have hired someone to take her away from Pelican Bay without anyone's knowledge? Then why had she hidden the boat? What was the purpose of pulling it up on shore if not to hide it?

Joe lit the lamp. The gramophone had been pulled out on the floor, and the records she had been playing lay beside it. The gramophone was evidence enough that Tanya had intended to return. She was very methodical, and if she had been leaving Pelican for good, she would have put it back in its proper place.

He carried the lamp into the bedroom and set it down on the dresser. Nothing was missing from the clothes closet. Even her coat hung there, and her suitcases lay on the floor. She must have taken a short run on the outboard and some accident had prevented her from returning.

Joe looked at the bed she had left neatly made, and then at the chair where she had draped her blue dressing gown over the back. He put out his hand and touched the soft silk of the gown. The whole room breathed of Tanya. With a sudden agonized movement he snatched the gown and



"Even tried counting sheep, but then I kept falling asleep before I could finish the whole herd."

He tried to reconstruct her actions in his mind. She had gone in the boat sometime between the time he went back to the Bay and Mac came out to the Lodge with the groceries. She had gone north along the lake and for some reason or other had headed for the shore and pulled the boat up and hidden it. Always he came to the same old question, why had she hidden the boat? That was one thing he couldn't figure out. Unless the person she had hired to take her away had hidden it there, intending to take it back to the Lodge, later on. But the door of the cabin had been open, according to Mac. She wouldn't leave the cabin unlocked unless she intended to return very shortly.

Joe paced up and down the floor, trying to pierce the cloud of mystery that hung over her disappearance. There might be a clue in the Lodge. He opened the window and climbed down the trellis.

THE Lodge was in total darkness. The back door was open and he walked in, flashing the light around the kitchen. There were the groceries on the table where Mac had left them Tuesday afternoon.

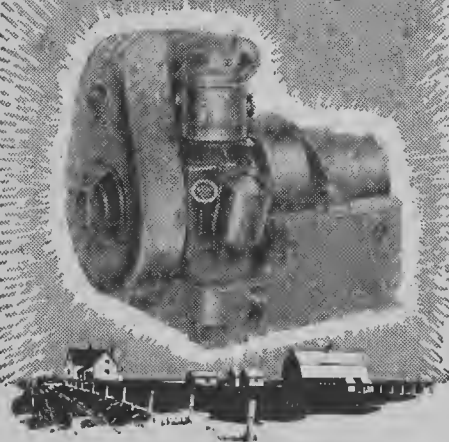
buried his face in the soft material. Five days—five long days had gone by, five terrible days of suffering for Tanya if she still lived, waiting for rescue that didn't come. Joe stood there for a long time, then he laid the gown gently back on the chair where she had left it. He blew out the light and lay down on the bed staring into the darkness.

"Tanya—Tanya—will me to come to you, think strongly, sweetheart, think—impress on my mind where to look for you. Think, Tanya, think as hard as you can. Say it in your mind over and over again, 'Joe, I am here, here!' Don't give up hope, my darling, for I shall never rest until I have found you. Think hard, Tanya, think hard and I will find you."

BACK in the old fort, Tanya was lying on the floor, raving in delirium. "Joe, Joe, I am here in the lookout in the old fort. I'm locked in, Joe—your father locked me in because he hated me. I am locked in. I can't get out. Water, water, please give me a little drink of water, Joe—please, please, I beg it of you. Joe, Joe, don't leave me alone any more—I shall die from thirst, Joe—Joe—Joe."

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All through the night she called, hardly knowing that she did so. Toward morning she fell into a stupor and dreamed of water, miles and miles of it in the distance that she could see sparkling and enticing, but no matter how long she stumbled on she never reached it. It seemed to move away even as she ran, but still she stumbled forward, on and on and on. The sixth day had begun.

AT daybreak on Sunday morning the search was continued.

The men spoke in low undertones to one another and Joe could see by their faces that they had given up hope of ever finding her. He knew that Mac, too, had come to the same conclusion when he said in a grim, cold voice, "Joe, I'm not goin' into the forest today. I'm takin' John and Luther and we'll drag the lake." He looked away, unable to face Joe.

George was there in the kitchen when Joe arrived. They shook hands silently and listened to the Mountie from Pier's Landing who had brought his two dogs to join in the search.

"Got anything she wore recently?" the Mountie asked. Joe drew the blue kerchief out of his pocket and handed it to him.

"I found this in the boat."

Evelyn stepped into the kitchen, her eyes searching the crowd until she found Joe. A silence fell over the men when they saw Tanya's sister in the doorway. It must be tough on her. Evelyn looked searchingly into the haggard face of Joe Quincey.

"Oh, Joe," she whispered, "you'll find her. I know you will. You'll bring her back to us."

She buried her face on his shoulder in a sudden impulsive gesture.

"I'll find her, Evelyn. Don't worry. I'll find her."

Martha watched them from the doorway, her lips moving in silent prayer.

The Mountie took his dogs to the boat and started from there while the men hurried through the forest. Johnny Ottertail was close beside Joe. Johnny had become his shadow in the last few days.

The search plane with George and the pilot droned overhead, skimming low over the tree tops, hoping to see signs of smoke, or the girl, in a clearing.

McTavish on the *Jolly Canuck* and Ralph in the *Rover* were already dragging the lake.

The men in the forest had covered six miles the day before, and by noon five more. They were abreast with Spirit Rock when the halt was called for lunch.

Johnny sat with Joe. All morning he had been thinking about the Mountie's dogs.

"Joe," he said suddenly, "I don't think she ever went this way."

Joe looked quickly at the boy who had uttered his own thoughts aloud.

"What makes you think that?"

"The Mountie's dogs. They couldn't seem to find any scent of her around or behind the boat. She may have walked north along the shore. I wonder if Harris will think of that?"

"Sure he will. If he sees the dogs aren't making any headway in the bush he's bound to try the shore. You must realize, though that snow fell the night before last and that might make a difference."

He bit his lip and frowned. "What I can't figure out, Johnny, is why she

pulled that boat up so far. Why did she want to hide it?"

"I can't figure that out either, but I just got a hunch we ain't looking in the right place."

"I feel the same way, Johnny. It seems to me we are making a mistake somewhere, but we can't take a chance. We've got to go through the forest at least 20 miles."

They got up. It was 12:30 and time to start again.

TANYA stood by the window at shorter intervals now, for she was getting too weak to stay on her feet. She had lost all track of time. How long she had been in the fort she didn't know.

During her rational moments, she was calm with the calmness of despair. It wouldn't be long now.

The idea that some child might find her had become an obsession in her mind. She must do something to attract the attention of a chance passer-by, she must leave some sign at the window. Her red sweater would do. It was bright and would be easily seen even from a distance.

She took off her sweater, though she could ill afford to lose its warmth, and tied it to the broken window. She watched it flap wildly in the wind and was satisfied. Someone would see the sweater and come to investigate and find her body.

She lay down on the bench and closed her eyes, but she could not sleep. The gnawing pangs of hunger, the terrible thirst and her sore and aching body would not let her rest. She had not tried the trap door for days. Had it been unlocked she would not have had the strength to open it, much less get to the river or walk home to the Lodge.

She was not alone now. That was one comfort. She would not die alone. Evelyn was there in the room and her grandmother, and sometimes McTavish with the groceries. But it was tiring when they all talked at once. The little boy sitting so patiently at the window must be the lookout. Didn't he know that it was useless to sit there and watch the river? They weren't coming, no one would ever come. He might as well give up as she had done.

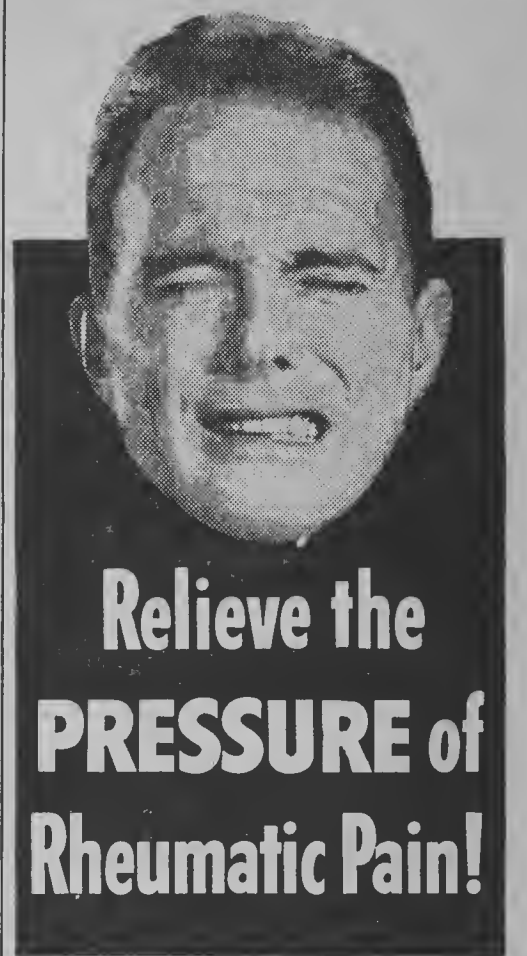
Sometimes they let her out of the fort and she wandered to the river only to find that it had dried up, leaving only stones and mud at the bottom. But they always made her come back and they locked her in the little room and went away. Some day she would outsmart them and run into the forest where they would never find her.

She struggled to sit up. Joe, where was Joe? Why didn't he come? Water—water, why didn't he give her any water—oh, why didn't he come?

EVENING came and when it was too dark to go any further, the men returned. They were scarcely twelve miles from the old fort where Tanya lay imprisoned in the tiny room.

A crowd waited at the dock, a silent crowd that watched the boats come in one by one carrying the weary men home from a fruitless search.

The *Rover* was the last to arrive. Evelyn waited and hoped until she saw Joe step on the dock. They hadn't found her. Evelyn's sudden hysterical weeping startled them. They fell back and let her walk to Joe.



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Please Mention The Guide.

"She's dead!" she cried aloud, "she's dead. I have known it all along. She meant to die. She didn't want to go on living. She's killed herself!"

Joe put his arm around Evelyn and led her gently away, talking in a low soothing voice. The crowd dispersed and talked in low tones. The white woman was right. The girl must be dead. No one could live in such weather without food and warmth. It was useless to search longer.

The men gathered in the kitchen still talking until Joe stepped in from the living room.

"We start again at dawn tomorrow," he said quietly.

The men looked away. Three days they had searched now, three long days, and not a trace of the girl. Joe looked from face to face. All wore the same expression.

"Well?" His voice was cold.

Mitchell from the Landing cleared his throat. "Well, Joe. I hate t'be the one t'say it, but my opinion is that the girl went into the lake. After what her sister said, I'm sure of it. It ain't no use us' lookin' any longer."

A low murmur ran through the crowd. Mitchell was right.

Harris spoke next. "My dogs couldn't find even a hint of a trail. I took them all around the boat, and all they did was jump in and bark. They found her scent there all right, but nowhere around in the forest or up the

shore. They were so baffled I had to quit."

Joe's eyes went from face to face again, and most of them looked away, unable to meet his eyes.

"Very well," he said quietly. "Thanks for all your help. I'll carry on alone."

A clear young voice rang out contemptuously. "I ain't quittin'. I'll keep on as long as you do."

Joe looked at Johnny Ottertail's tired face.

"Me too," this from Doug Shorting.

"You needn't ask me, Joe," McTavish said grimly. "I'll never quit. I'll look until we find her." He swung around and faced the others in sudden anger. "An' we'll find her, too, damn you, or my name ain't Donald McTavish."

Joe spoke again, very quietly.

"Thanks for all your help, men. You've done a good job, and you've done it willingly and well. We are grateful, all of us who love her, but we are tired to the point where our nerves are raw. Mac meant no offense. He hasn't slept much since we found out she was missing, and neither have any of the rest of us. Better have some supper before you go. You're tired, too, and you've got a long way to go before you get home."

They sat down around the two tables and ate in silence.

Mitchell conversed in low tones

with his neighbors. "Seems like runnin' out on a sinkin' ship," he muttered. "I feel kinda' mean about it. I guess we should keep on one more day. It would make 'em all feel better just t'know everythin' that can be done is bein' done. What do you say, Dave?"

They got up to make place for two more, and Mitchell went up to Joe.

"We'll see you in the morning, boy. The Landing men will all be there on the dot."

He shook Joe's hand and went out. Ferris from Sandy River spoke for his men.

"We, too, will come," he said in Cree. "We will search until you tell us to quit."

THE boats roared out of the harbor homeward bound. Johnny Ottertail stood on the pier and watched them go. He turned as Willow slipped her cold hand into his.

"Willow," his eyes lit up. "It's good to see you. But you're shiverin' with cold. Here, put my jacket on."

Willow shook her head.

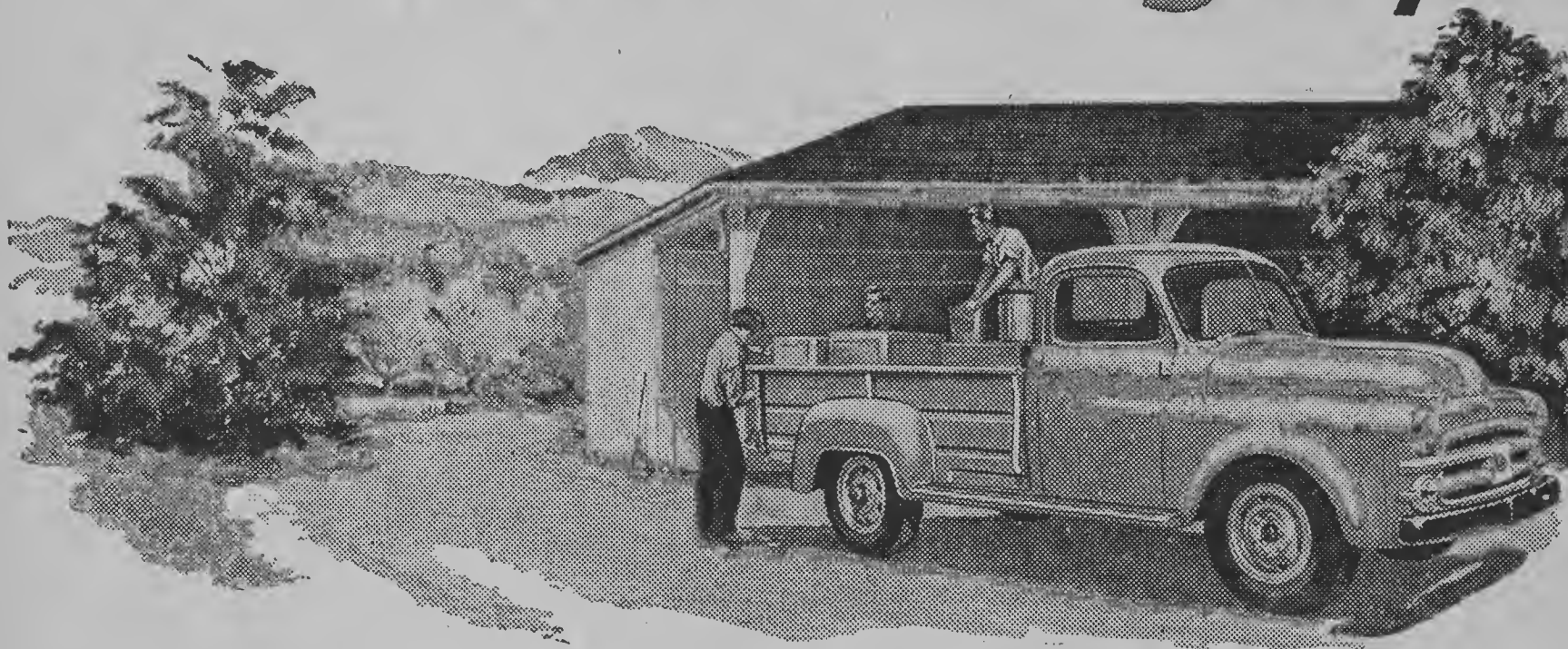
"No, I ain't cold, Johnny. Tell me," she said as she lifted her haggard face, "where are they searching now?"

"In the forest, and it's slow going with all the underbrush and dead trees."

Willow licked her lips. "Why don't

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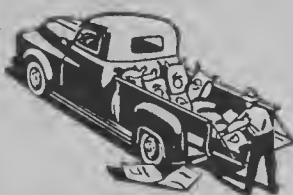
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BRANDON

they try goin' on the river again? I'm sure she must have gone there."

"Why?"

Willow tried to look unconcerned. "Well, I had a funny dream," she stammered nervously, "a dream about her and the river. I'm sure that's where she went." She leaned suddenly against Johnny and began to weep.

"Make them go back on the river, Johnny. Please, please make them go back. They should never have stopped lookin' there. They should have gone as far—well, even as far as to the old fort. She might have gone there to explore. The summer people often do."

Johnny put his arm around Willow and led her to the steps of the light-house. He, like most of the Indians, was a firm believer in dreams.

"I think maybe you're right, Willow," he said. "I had the same hunch myself, but I'm not running this show and I can't tell Joe and the rest what they should do, they'd hardly listen to me."



"Here's one you might enjoy if you like footnotes."

Willow's voice rose hysterically as she cried out, "I don't give a damn whose running what. I just know they'll never find her in the forest and she may be dead by now and they've got to go back on the river." She sobbed aloud in her agony of mind, and refused to be comforted.

"Promise me, Johnny, that you'll get Joe to go to the river tomorrow. But don't tell him about my dream. He'll only laugh. Just get him to go. That's all I ask."

She leaned forward and kissed him when he said, "Okay, Willow, I promise I'll get Joe to go back to the river and if he won't I'll take a boat and go myself."

"Thanks, Johnny," Willow said in a low voice and stood up. They looked at one another for a moment, then Willow was in his arms, whispering over and over again, "I love you, Johnny. Oh, I love you so much!"

JOE went into the living room. They were all sitting there, the McTavishes, the Winspears and Johnny, and they would sit there all night. No one suggested sleeping.

"How's father?" Joe asked Martha.

"He spent a fair day. A little restless at times, but he's not in any pain and he's past the danger point. He seemed to have something on his mind that he was trying to tell me. He might have been wondering why you didn't come. I told him you had gone to the river and he seemed to rest

easier. Mrs. Robertson came over to spend the night."

Martha picked up her knitting and fell into silence. There was nothing one could say. What a lot of trouble had befallen them all at once. First Phil, then Oria, then Angus, and now Tanya. Of them all, Tanya's plight grieved them most keenly. It was the uncertainty that was so hard to bear. What then must it be for Tanya if she was still alive—without food, possibly without water, and inadequate clothing to keep her warm. Was she lying injured in the forest wondering why no one came? Had the men stopped only a short distance from where she was? It was a maddening thought.

Evelyn sat in the shadows with her hand shielding her face, weeping quietly to herself. For Evelyn's sake they had to be strong and conceal their own doubts and fearful thoughts.

Johnny sat on the floor and leaned against the wall lost in dreams. He was thinking of Willow and what she had said to him at the pier. "I love you

—I love you," echoed in his ears and he knew by her face that she meant it.

AT that moment, Willow Lebutt was kneeling at the altar in the little church on the hill, praying to the image of the Virgin Mother.

The light from her candle flickered across her tired face as she clasped her hands and lifted her eyes to the serene face above.

"Holy Virgin Mother," she prayed in a low voice. "I have been bad, so bad I could die from shame. But I'm sorry I done wrong and I'm scared—I think I'm going crazy. Help me, Holy Mother, help me. Don't let her die. Make them go on the river and find her tomorrow."

The tears ran down her face but Willow was not aware of it. "I can't stand this any longer. If they don't find her tomorrow, I got to tell and I'm so scared. They'll put me in jail and maybe I'll be hung, but I got to tell."

Willow buried her face in her hands and wept. It was hard to face the truth. When she looked up again, there was a look of strength in her white face. Her dark eyes were calm and steady as she said:

"Most Holy Virgin Mother, give me the courage to tell them where she is, and don't let her be dead. I don't want Joe Quincey any more, I wish I never had wanted him 'cause it brought me into all this trouble. It's Johnny I love, but I guess he won't

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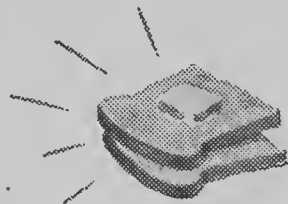


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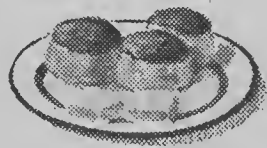
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want me when he finds out how bad I've been."

Willow wiped the tears from her cheek and whispered "Oh, Johnny, Johnny. I couldn't bear it if you hated me. Love me, Johnny, love me always and I promise I'll be a good girl and never do anything wrong again. I swear it!"

She looked imploringly up at the image.

"You know I'm telling the truth, Holy Mother, you know I mean what I'm saying. It's just Johnny I want. She can have Joe—and don't let her die, please, please. If you will answer my prayers I swear I'll be a good girl."

Willow's incoherent prayers went on and on, and at last she got to her feet, made the sign of the cross and stumbled down the aisle. She was tired as she had never been tired before, but she was at peace with herself.

Without knowing it, Willow Lebat had grown up while she knelt and prayed to the Virgin in the flickering candlelight in the little church on the hill.

JOE paced up and down in deep thought. He knew that all their hopes centered in him and what he could do, and he felt helpless and weak before their faith.

Hours went by, and Martha got up to make tea that nobody wanted, but it gave them a little diversion and occupied a little of their time.

"Drink this down every one of you," she commanded, and they obeyed.

Joe resumed his steady pacing again.

"Somehow," he muttered aloud, "somehow I have a feeling that we are looking in the wrong place."

Johnny leaned forward and watched Joe's face. He thought of Willow's dream and the promise he had given her.

"I've had that feeling since—since the day we left the river. How far did we go that day, Johnny?" He stopped in front of the boy.

"Almost up to Spirit Rock, I think."

Joe nodded. "Yes, I guess we did. I have a feeling I should go up the river again, I don't know why." Mac looked up.

"But the boat was found six miles north of the river, Joe. Wouldn't that indicate she had gone north and not west? She couldn't have been near the river."

"I know. That's the lead we've been following, and so far it has brought us nothing. Someone pulled up the boat over the sand and well into the bushes. That takes strength, the strength of two hands. Tanya had only one hand with which to pull the boat."

The others looked up, startled.

McTavish looked sharply at Joe.

"Are you implyin' that someone else pulled that boat up, Joe?"

"Yes."

The air was pregnant with emotion. Had Tanya met with foul play?

"Look at it this way," Joe said thoughtfully. "Supposing she went on the river and got out somewhere along the bank, leaving the boat tied to a tree or a log, and when she came back the boat was gone, stolen by someone who saw it on the river and hid it high on the bank where it wouldn't be seen, intending to return later and get it."

They were all sitting tense, waiting for him to go on. His reasoning was sound; it made sense.



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"Then why didn't she walk home? She's had six days in which to do it." George spoke for the first time.

Joe frowned. "Yes, why didn't she walk? Maybe she wasn't able to walk, or, maybe she was frightened and ran into the forest to hide, and got lost."

He sighed. "That brings us right back to the same spot we've been in for days, the supposition that she is somewhere in the forest."

He paced the floor for a few minutes before he spoke again. "But still I can't help feeling that we aren't looking in the right place. I keep coming back to the river all the time. Johnny, you felt that too, didn't you, that we weren't in the right place?"

Johnny nodded. "I think you're right, Joe, about the river. Wherever she was when she got out of the boat, even if she was as far away as the old fort, she'd head back for the river and follow it home. If she lost her direction in the forest, she'd have sense enough to guide herself by the sun. By walkin' toward it she'd be bound to hit the river."

"She'd never hae gone to the old fort," Mac argued. "It's a good 30

miles from the Lodge, and she started off in the late afternoon."

Joe looked at his watch. One hour till daylight.

"Nevertheless, Mac, Johnny and I are going on the river in the morning."

George spoke, "I'll come along if you don't mind. How long 'till daylight?"

"Almost an hour. I don't know why, but I feel such urgency to go, I want to go right now."

Johnny stood up. "Why not? We can use your searchlight and be at Spirit Rock in a couple of hours. No time wasted that way. You can go up that river blindfolded."

They gulped down the tea Martha had made and left. The three in the living room heard the motor roar as the boat left the harbor.

Martha spoke suddenly.

"I have a feeling—" she said slowly, "I have a feeling that Joe knows what he's doing. Something told him to go on the river. I think he'll find her there."

The seventh day had begun.

TO BE CONCLUDED.

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All the Queen's Coaches

The Windsor grey horses and State coach will be an important part of the pomp and pageantry of the Coronation

by CAPT. T. KERR RITCHIE

SEEING the gay pageantry and medieval custom of a Royal procession in London reminds one always of the age-long link between Royalty and coaching. At the end of the sixteenth century the first Queen Elizabeth travelled about her kingdom in one of the first wheeled coaches to be imported from Europe. In the past, the Royal Mews or stables was at Charing Cross, on a site now covered by Trafalgar Square and part of the National Gallery. A "mews" was originally a home for falcons used for hunting, and as early as Richard II's reign the poet Geoffrey Chaucer was "Clark of the Mews at Charing." The present Mews at Buckingham Palace were built by the architect Nash for George IV.

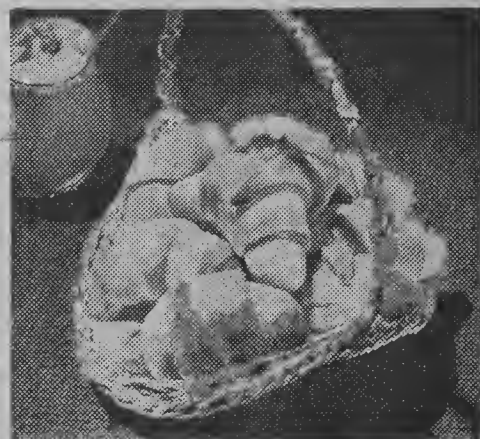
Before the war, almost anybody could obtain a permit to visit the Mews, and lovers of horses and carriages went there frequently. But today, in keeping with many other things in life, the atmosphere is more

official, and visits are controlled.

Imagine the tremendous responsibility on the shoulders of all those responsible for the Queen's horses and vehicles, from the Chief Coachman up to the Master of the Horse. Nothing must go wrong. Nothing must break down. Times may be more peaceful than in 1795 when the King went to the House of Lords in customary state to open Parliament, and on his return the mob stoned the coach, and £387 15s. had to be spent on new glazing. On the other hand, times are more exacting and the dignity of State functions must not be upset by a coach axle snapping in the middle of Whitehall.

There is much contrast in the actual running of affairs in the Royal Mews. Despite the fact that the stable of the famous grey horses is as large as a ballroom, with 16 of the most beautifully kept animals on either side of the porchway, the Mews is very tight for space. It was not built to accom-

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Scold

- 1 cup milk
- 5 tablespoons granulated sugar
- 2½ teaspoons salt
- 4 tablespoons shortening

Remove from heat and cool to lukewarm. In the meantime, measure into a large bowl

- ½ cup lukewarm water
- 1 teaspoon granulated sugar

and stir until sugar is dissolved. Sprinkle with contents of

- 1 envelope Fleischmann's Fast Rising Dry Yeast

Let stand 10 minutes, THEN stir well, stir in cooled milk mixture and

- ½ cup lukewarm water

Stir in

- 3 cups once-sifted bread flour
- and beat until smooth and elastic; work in
- 3 cups more (about) once-sifted bread flour

Turn out on lightly-floured board and knead dough lightly until smooth and elastic. Place in a greased bowl and grease top of dough. Cover and set dough in warm place, free from draught, and let rise until doubled in bulk. Turn out dough on lightly-floured board and knead lightly until smooth. Divide into 4 equal portions and finish as follows:

1. PARKER HOUSE ROLLS

Roll out one portion of dough on lightly-floured board to ½-inch thickness; cut into rounds with 3-inch cutter; brush with melted butter or margarine. Crease each round deeply with dull side of knife, a little to one side of centre; fold larger half over smaller half and press along the fold. Place, just touching each other, on greased cookie sheet. Grease tops. Cover and let rise until doubled in bulk. Bake in a hot oven, 400°, about 12 minutes. Makes 6 rolls.

2. CLOVER LEAF ROLLS

Cut one portion of dough into 8 equal-sized pieces; cut each piece into 3 little pieces. Shape each little piece of dough into a ball and brush with melted butter or margarine; arrange 3 balls in each greased muffin pan. Cover and let rise until doubled in bulk. Bake in a hot oven, 400°, about 12 minutes. Makes 8 rolls.

3. FAN TANS

Roll out one portion of dough on lightly-floured board into a rectangle a scant ¼-inch thick; loosen dough, cover and let rest 5 minutes. Brush dough with melted butter or margarine and cut into strips 1½ inches wide. Pile 7 strips one upon the other and cut into 1½-inch lengths. Place each piece, a cut side up, in a greased muffin pan; separate the slices a little at the top. Cover and let rise until doubled in bulk. Bake in a hot oven, 400°, about 12 minutes. Makes 8 rolls.

4. CRESCENT ROLLS

Roll out one portion of dough on lightly-floured board into a 14-inch round; brush with melted butter or margarine and cut into 12 pie-shaped wedges. Roll up each wedge of dough, beginning at the outside and rolling toward the point. Arrange, well apart, on greased cookie sheet; bend each roll into a crescent shape. Brush with melted butter or margarine and sprinkle with salt. Cover and let rise until doubled in bulk. Bake in a hot oven, 400°, about 12 minutes. Makes 12 rolls.

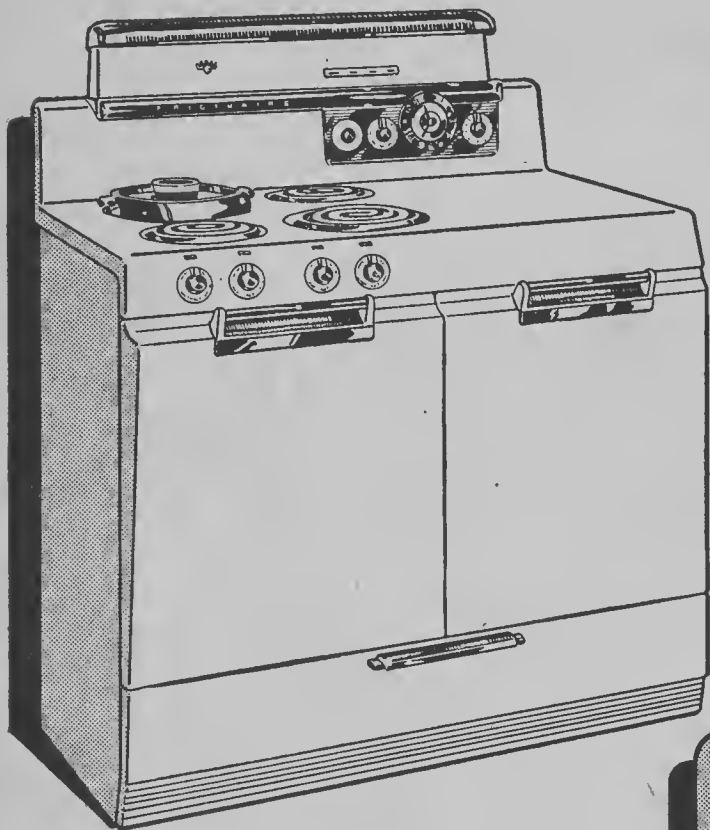


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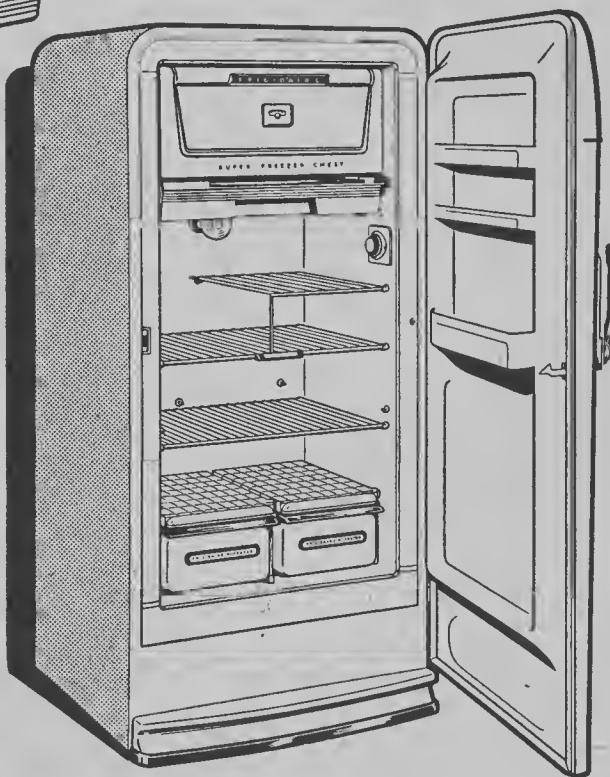


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moderate motor cars, so garages have been built into other buildings wherever there is room.

You cross the courtyard to the harness room and coaching museum. Two long walls are filled with glass-fronted cases carrying famous and, indeed, historic harness. There are seven sets of six-horse harness, extremely heavy, in red morocco leather and embellished with richly gilt coat-of-arms and crowns.

In the museum are family treasures such as Mexican silver-covered saddles presented a century ago to the Royal Family, Queen Victoria's riding crop, and hunting trophies of the Prince Consort. The first stable contains the Alexandra coach and a few other vehicles not often seen. The second stable contains a dozen vehicles ranging from the "Irish" coach to the little State landaus used by ladies-in-waiting, or for fetching foreign diplomats invited to the Palace. The Irish coach is a homely looking little coach bought by Queen Victoria as a personal possession at the Dublin Exhibition in 1852. The present Queen Elizabeth calls it "Great-grandmama's carriage."

IN the center of the west wing of the courtyard is housed the glass State coach, pinnacle of the Royal collection, which will be used at the Coronation in June. The framework and most of the panelling is of wood, just like any other coach, but it certainly has a larger area of glazing than usual, even 100 years after coaches with glazed windows were first seen on the streets of London.

The description "glass" coach was, in fact, a novelty in Pepys' time. On September 23, 1667, he recorded: "Another pretty thing was my Lady Ashly's speaking of the bad qualities of glass-coaches; among others, the flying open of the doors upon any great shake; but another was that my Lady Peterborough being in her glass-coach with ye glass uppe, and seeing a ladye pass by in a coach whom she would salute, the glasse was so cleare that she thought it had been open, and so ran her head through the glasse!"

This magnificent State coach was built for George III in 1762 at the then fantastic cost of £7,587 19s. 9½d. The exact price, with its odd final figure of 9½d. has always aroused some amusement. The foreman responsible for the job received £1,675 15s. for his work. The odd pence and the ha'penny come from the sum of £202 5s. 9½d. paid to one "Hinchcliff, mercer," for some of the cloth lining; the rich decoration on panels and doors by Cipriani cost only £315.

The coach weighs four ton. The old-fashioned hand brakes actuated from behind, are to be retained, but at the moment the wheels are being fitted with specially made solid rubber tires.

It is a great test of horsemanship to have all eight horses postillion-ridden through the streets of London; and one of the finest sights in the world to view the eight Royal Creams with their out-riders pulling the Cipriani gilt coach.

These famous Windsor grey horses; of a fiery Hungarian thoroughbred strain originally, are being constantly trained, and my last vision of the Royal Mews was of two of them—"Snow-White" and "Eisenhower"—standing partially harnessed with their heads placidly hovering over a radio installed to accustom them to blaring music.

The Countrywoman

THE kitchen is the "work core" of a family dwelling. Much time and thought should go into its planning, selection of equipment and the arrangement of furnishings to make it an "efficient" work area. This holds true, whether you are building a new house or remodelling an old one.

In a sense the farm house is a small factory, with a wide variety of operations connected with food processing and storage in addition to the actual preparation of meals, common to all households. These extras tend to center in the kitchen but may spread into adjacent areas, such as pantries, the basement, a summer kitchen or even to an outside shed. When this happens or the kitchen itself is too large, many extra steps and fatiguing motions are entailed for the busy housewife.

Modern "fatigue" studies in shops, factories and homes show that striking economies in time, energy and the health of the worker can be made through: proper grouping of equipment, storage of tools and supplies near the place of work, correct levels of tables and counters to avoid too much reaching or bending and the use of durable and easily cleaned surfaces.

The coming of electric power to farming communities has opened up great possibilities of adding comfort and saving of time and labor through the addition of a water system, use of electric power for lights, stoves, refrigerators and other useful devices. These entail a considerable investment, so every possible effort should be made to get the maximum benefit from their use, and calls for careful planning in a new house—to see that the adequate space is provided for their installation. The present or prospective purchase of modern conveniences may be just the incentive needed to launch a kitchen improvement project in an older house.

Even though the hope of having electric power is remote, there need be no delay of plans for the conversion of an inconvenient kitchen or the building of a new one into an efficient work area. In fact, the need for such may be all the more urgent, as the time and strength of the household worker is precious and vital to the welfare of the family. Individual needs vary greatly according to the size of the family, the type of farming, power and water supply, the type of fuel used and the money available. The financial status of the family may affect the quality and kind of equipment purchased but it does not affect the efficiency of a work pattern.

"Farm Kitchens and Utility Rooms," the most recent booklet published by The Prairie Rural Housing Committee, sets forth the basic principles of good planning for efficient work areas in the farm home. It is a book of "ideas" rather than a catalogue of plans and is concerned with both the electric and the non-electric kitchen. The seven basic floor plans are given and the book is well illustrated to show the fitting of particular details into a given floor plan. The blocking-off of floor space into foot-squares enables the reader to compute the actual amount of space required and location for any particular item such as: cabinets, dining area, stove, laundry equipment, refrigerator, sink, etc.

THE helpful booklet may be obtained through the Department of Agriculture provincial office in Alberta, Manitoba and Saskatchewan. It was compiled from information gained from farm people themselves through a competition on "Better Farm Homes" sponsored and conducted by Central Mortgage and Housing Corporation and through a field survey made in 1948 by The Planning Research Center, under the School of Architecture, University of Manitoba, to collect and relate information bearing directly to the planning of rural homes of a type suited to the various conditions to be found in the three prairie provinces. Its form and content were subjected to review by competent and practical persons in all three provinces. Its preparation was entrusted to a trained staff of architects.

The first section devoted to Planning Standards advises keeping in mind the following points:

A review of the booklet Farm Kitchens and Utility Rooms, published by the Prairie Rural Housing Committee—useful to those planning a new house or remodelling an old one

by AMY J. ROE

"Build the cabinets to fit the housewife."

"Build the kitchen to fit the family."

"Build the shelves to fit the supplies."

The back entrance to the farm house is important. It should lead into a rear hall, or a utility room, apart from the meal preparation center. There should be ready access to the living and sleeping quarters without making the kitchen itself a passageway. The size and location of doors and windows should be studied to avoid unnecessary cutting up of wall space, against which cabinets



Chorale of Mountain Spring

*Now we can hear within the piano night
The bass of rocks crescendo down the mountain;
The treble of small stones before and after;
And the river mumbling with boulders, articulate
with trees:*

"Going home, going home—glory!"

*Softly the rain, lullaby, lullaby,
Softly the leaves chiming of sleep.
But the streams leap polyphonic from the hills
In waterfalls of singing and the river, exultant with
soil and cedar:*

"Going home, going home—glory!"

*Behind the soft-voiced chinook, the tinkle of drops
glissando,
Storm rhythms our blood and the beat of canyon
wind.*

*The earth is mad with water, mad with throbbing
flood-drums*

*And the river, heaven-shouting:
"Going home, going home—glory!"*

—GILEAN DOUGLAS.



and the larger pieces of equipment must be placed. The student of kitchen plans is invited to consider the chief work centers with their attendant supplies and utensils. These are: mix, cook, serve and sink. Between these will lie the "traffic lanes" which she will travel most frequently.

Simple and graphic illustrations show how to determine the correct levels of work surfaces, recommended heights and widths of counters and cupboard shelves to avoid unnecessary bending or reaching. Variation in heights for jobs done at a sitting or standing position are recommended and some ways to achieve these are suggested.

The application of "ideas" to either the electric or the non-electric kitchen is presented on opposite pages in the second section. This is followed by a breakdown of individual items, with drawings and lists showing the utensils and supplies which should be grouped around the various "work centers."

With illustrations showing construction details, what the finished job should look like and with exact specification for heights, widths and depths, the housewife is in a good position to approach either handyman husband or the local builder and say: "That is something I would like to have in my kitchen. Will you build it for me?" The carpenter, be he amateur or experienced, can then proceed, calm in the knowledge that the lady's judgment is backed by that of experienced planners.

Lives there the woman who has all the cupboards, closets and shelves she wants? Most builders and many husbands doubt it. The third section on Functional Storage will delight the heart of the woman who likes to have "a place for everything and everything in its place." The modern streamlined kitchens, so frequently illustrated in magazines, books and advertisements have undoubted "eye appeal." The farm housewife may come to consider them to be only "dream kitchens" consoling herself with the thought that her kitchen could never look like that—there are too many things which have to be kept in it.

With supplies and utensils stored in adequate wall and base cabinets, the housewife can be assured that things can be kept where she can get at them easily and quickly, that the room can be kept tidy and neat, and that uniformity of line of cabinets combined with good grouping of equipment will tend to give her kitchen the desired modern appearance. It may not be achieved all in one piece, but step by step, year by year additional features may be added.

Construction of wall and base cupboards is shown in detail, leaving the homemaker to select the ideas that best suit her needs. She is advised to keep the use of space "flexible" by using adjustable shelves, and sliding partitions which may be achieved in different methods, which will be readily grasped by a practical carpenter. Drawers may be vertical, divided, partitioned or fitted with sliding trays to keep the various sized items housed and ready for a quick pick-up.

THE Utility Room is the subject of the closing section of the book. The idea of a separate work area for those jobs not connected with the actual preparation of meals is growing in popularity rapidly and is now embodied in many good farm house designs. The kitchen and the utility room should be planned to function together. The activities carried on in each are closely related. The purpose of the utility room is to support the kitchen in providing work space for the many and diversified activities carried on in the work core.

Four basic arrangements are described: the separate utility room; the combination utility and kitchen; the adjoining utility room and kitchen and the basement utility room. Floor plans taken from actual house designs are shown. The utility room is best located on the main floor, near the rear entrance and near to the basement stairs. Men coming in from work have a closet in which to hang their heavy outer garments and to store work shoes and rubbers. They use it as a wash-up center. They will appreciate its accessibility when doing cream separating, or bringing supplies. If located in the basement, then the basement stairs should be convenient to the rear entrance, should be straight-run with no landing and wide enough to permit the carrying of bulky articles; and should have easy "risers" to lessen the effort of climbing. This arrangement is particularly well suited to a split-level or grade-entrance house.

The utility room would accommodate such jobs as separating, preserving, laundering, giving space for the equipment and storage that goes along with these tasks. It has in addition to the clothes closet, another for the storage of cleaning supplies and equipment. The extra sink provides a wash-up center for dairy utensils and laundry jobs. It could in addition serve on occasion as a spot where candling of eggs, dressing of poultry and meats can be done on a small scale.

While the woman of the house is busy doing the weekly wash or ironing, she can keep an eye on things in the kitchen. It can be used during daytime as a play center for toddlers, who must be kept in view at all times by the mother proceeding with kitchen tasks. It can be used either as a sewing or hobby room, when not otherwise in use. Here, as in the kitchen, the importance of planning for serviceability and flexibility is urged.

From Teaching to Writing

HISTORY was in the making for the women of Saskatchewan and Manitoba in 1909, though not many of them were yet conscious of the spirit of unrest and change, which lay ahead. A young teacher, Lillian Beynon, born on a farm near Hartney, with experience in rural schools, was now engaged in instructing in Morden High School. John W. Dafoe, editor of the Manitoba Free Press, had come to town to give a talk at an evening meeting. On the bright spring morning of the day of his departure, Lillian, too, was on the station platform. She had had the urge to do something "different" from teaching. The opportunity to work on a paper appealed to her. But how did one go about getting it?

She watched the stalwart editor's figure as he paced up and down the station platform, waiting for the train that would carry him cityward. Why not ask him? Inwardly quaking, she approached Mr. Dafoe and asked if she might have a try at a job on his paper. John W. Dafoe had been a country boy, and had taught school, before answering an advertisement for a reporter, in a Montreal paper. He was kindly and sympathetic and assured her that she could have her chance at a job. When school closed at the end of June, Lillian packed her things and hustled off to Winnipeg.

She was assigned a page on The Prairie Farmer, the weekly rural publication, carrying the title "Home Loving Hearts" and wrote under the nom de plume "Lillian Laurie." Through it she conducted discussion on all manner of problems affecting farmers' wives and daughters. She was in her element for she knew and understood the kind of people who wrote to her and for whom she now wrote. Many of the situations, problems and solutions which were revealed to her, later became ideas which she put to good use in writing fiction.

LILLIAN BEYNON was a gentle little woman with twinkling blue eyes, soft fluffy hair and a beguiling demureness of manner and a keen sense of humor. She had the courage of her convictions and a persistence in maintaining her ideals. In thinking she was years ahead of her times. Her eyes had already caught something of the vision of the Canadian west. Love of humanity was the keynote of her personality.

On her page she began advocating that farm women unite into provincial organizations to discuss and take part in matters affecting their welfare, as farm men had been doing for some years past. She was happy and proud in 1911, to receive an invitation to go to Regina, to address a gathering of

A personal sketch of a woman, who forsook teaching for a career in writing and played an active part in the thought and stirring events of the times and became a good counselor to others in her chosen craft

by **BLANCHE ELLINTHORPE**



Lillian Beynon Thomas

Saskatchewan rural women, as special guest speaker. Despite biting cold, wind and snowstorm, some 50 women attended the meeting. The organization which emerged from that first convention was named the Saskatchewan Homemakers Clubs.

Of that first meeting, Lillian Beynon Thomas said in a recent interview: "To outsiders we, no doubt, looked to be just an ordinary group of women. But we knew that we were not just 'ordinary.' As we listened to the lectures, heard the discussions and learned of what must be done, we knew that we were helping to build a nation. Money was scarce—terribly scarce in those days—but every woman there was wealthy. Her wealth consisted of dreams. And what is money compared with even the pale shadow of a dream?"

Meanwhile, Cupid drew a long bow. A tall, slim young Englishman, in the bowler hat and tight fitting grey suit, fashionable for the men of that day, arrived to work as a reporter on the Free Press and proved to be a companionable associate. Lillian and A. V. Thomas were married in 1911. "Vern" as he was known to his many friends, encouraged Lillian in her writing and organization activities.

Her younger sister, Francis Beynon, in June, 1912, joined the staff of The Grain Growers Guide, as its first full-time women's editor. The two sisters, on separate papers, according to their individual talents, influenced and

reflected the thought of rural women on the questions of the day. Backed by the sympathetic support and wise counsel of their respective editors, J. W. Dafoe on the Free Press and George F. Chipman on The Grain Growers Guide, the two women writers played an important part in formulating and directing thought.

By 1912, most of the Canadian provinces were aware of the desire of women to secure the franchise. A group of forward-thinking women in Winnipeg formed themselves into the Equality League and Lillian was elected president. She was closely associated with Nellie McClung, who was then becoming a leading and popular Canadian novelist and lecturer. Both were in constant demand as speakers and organizers. Both knew that they had the sympathy and backing of the organized farm men and women in the struggle for equal franchise. The combination of their talents

for writing, speaking and organizing enabled them to play effective roles.

Lillian's was the intellectual approach. She was far from being a militant suffraget. Though public support was rising, the women realized that the Roblin government was *definitely* not in favor of the reform. Demonstrations serve a useful purpose. She confesses that her most embarrassing moments were when she forced herself—for the good of the cause—to wear a wide white ribbon across her blouse, on which was emblazoned "Votes For Women." The campaign was well organized and wherever a crowd gathered, there too, were members of the Equality League, handing out pamphlets.

NELLIE McCLUNG in her book "The Stream Runs Fast," gave Lillian Thomas full credit for the idea and production of a satirical play "The Women's Parliament" in the city's Walker Theatre, which made the Roblin government the subject of much conversation and considerable mirth for many months. Nellie McClung played the role of the premier and Lillian Thomas was equally effective as the leader of the opposition. The "downtrodden men" of Manitoba were represented as coming humbly to a "Women's Parliament" merely asking that they be permitted to vote. The audience, including cabinet ministers and legislature members, who had either been inveigled or shamed into attending, some bitter

opponents of woman suffrage as well as many of its loyal supporters went into repeated gales of laughter at the skillful wit and humor of the "skit."

When the Liberals won the election of 1915, Premier T. C. Norris promised the women support for the measure, if they secured 17,000 signatures to a petition asking that women be granted the franchise. On December 23, Mrs. Thomas headed a delegation that waited upon the premier and his ministers, and presented a petition bearing 39,584 signatures—and a separate one, secured by one elderly woman, with another 4,250 signatures.

At long last the enfranchisement of the women of Manitoba seemed assured. The "Bill" was in the making. A few days before it was to be presented to the legislature, Lillian was given a hint that though the women would be granted the vote, there was a provisory clause which stated that no woman would be permitted to sit in the House of Legislature. She asked to see the Bill, but was reminded by the lawyer, who had drafted it, that it was confidential information, until presented to the legislature and therefore its content could not be revealed.

"I can't tell about that clause, but we can and will fight the principle of it," was her reply.

She went home to ponder the next step to be taken to overcome the unexpected obstacle. She then telephoned members of the Equality League, asking each woman to trust her and to get in touch with their legislative member and to enquire if the proposed Bill contained any clause other than the one granting the franchise to women.

FRANCIS BEYNON, from The Grain Growers Guide, was in Brandon, "covering" the meeting of farm women in attendance at the annual convention of the Manitoba Grain Growers' Association. Lillian put in a long distance telephone call to her sister. Francis took over from there, realizing that she was in a good strategical position. She 'phoned a good Liberal henchman, to say if the restrictive clause were included, that she would initiate and steer through the women's meeting a motion of censure of the Liberal government and that such a motion, would of necessity come before the main convention at the closing evening session. Party machinery moved fast and the unwanted clause was stillborn.

The galleries of the legislative building were crowded with visitors, among whom were Lillian, Francis and scores of women who had worked for equal franchise, on January 27, 1916. On that memorable day the legislature approved the final reading of the Bill, which now became an Act, declaring the women of Manitoba eligible to vote.

The bachelor premier declined an invitation to attend a public dinner to celebrate the victory, until persuasion of friends convinced him that political strategy demanded his presence there. Mrs. Thomas often chuckles about it now, recalling how high feeling ran at that time. "The premier wouldn't

(Please turn to page 76)

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Let's Have Pancakes

On Pancake Day and throughout the year serve them for breakfast, lunch or supper

IN olden days, on the last day before lent, the housewife used up her eggs, sugar and fats, foods which would be forbidden during the lenten season, in making special cakes. Then she hastened off to church to be *shriven* or absolved of her sins for the period ahead. Soon the cakes became known as *shriving cakes* and the day as *Shrove Tuesday*. As time went on special customs grew up around the day.

Pancakes were substituted for the cakes and as the religious significance has dimmed throughout the years the two events were combined and we have Pancake Day, the day before the lenten season begins.

Of course, pancakes are not served only on Pancake Day. They are delicious served for breakfast, lunch or supper, as the main course or for dessert, throughout the year.

For a satisfying and nutritious main course at lunch or supper serve buckwheat cakes with sausage, buttermilk pancakes with bacon or pancakes with creamed chicken, ham or mushrooms. As a dessert after a light dinner make rolled pancakes from a rich thin batter and serve them with lemon or cherry sauce. Two or three layers with fruit between and the thickened syrup poured over is good, too. Or, if you like, serve any kind of pancakes with syrup and butter.

Pancakes

- | | |
|----------------------|------------|
| 1 tsp. salt | 2 T. sugar |
| 2 c. flour | 2 eggs |
| 4 tsp. baking powder | 1½ c. milk |

Sift flour, salt, baking powder and sugar into mixing bowl. Add unbeaten egg and milk; beat with a rotary beater until thoroughly mixed. Heat griddle. Pour on batter from a pitcher to form cakes about three inches in diameter. Turn only once. Serve immediately with butter and syrup.

Buckwheat Cakes

- | | |
|----------------------|---------------------|
| ¼ cake yeast | 1 T. molasses |
| 2 c. milk | ¼ tsp. soda |
| ½ tsp. salt | ¼ c. lukewarm water |
| 2 c. buckwheat flour | Melted fat |

Scald milk then cool to lukewarm; crumble yeast into milk; add salt and flour and beat until smooth. Cover and let rise overnight. Before baking mix the molasses, soda and lukewarm water and stir the mixture into the batter; stir in up to ¼ c. melted fat if you like. Bake on griddle; serve with butter and syrup.

Buttermilk Pancakes

- | | |
|--------------------|---------------|
| 1 c. buttermilk | ½ c. milk |
| 1 egg | 1 T. butter |
| 1 tsp. baking soda | 2 T. cornmeal |
| ½ tsp. salt | 2 c. flour |

Stir sweet milk into buttermilk; add soda, salt and beaten egg. Melt butter, cool and add. Sift in flour and cornmeal. Beat well. Fry on hot griddle and serve immediately with syrup and butter.

Buttermilk Waffles

- | | |
|--------------------|--------------------|
| 3 c. flour | 2 c. buttermilk |
| 1 tsp. baking soda | 4 T. melted butter |
| 4 eggs | 1 tsp. salt |



For breakfast serve pancakes with bacon.

Sift flour, baking soda and salt. Beat egg yolks, pour the buttermilk into them and add the melted butter. Stir this into the dry ingredients, then fold in the whites of eggs, beaten stiff. Mix with a spoon until bubbly. Cook on hot waffle iron. Serve with butter and syrup.

Corn Meal Cakes

- | | |
|----------------|--------------------|
| 1 c. corn meal | 1¼ c. buttermilk |
| ½ tsp. salt | 1 egg |
| ½ tsp. soda | 1 T. melted butter |

Mix corn meal, salt and soda in mixing bowl; add milk, egg and melted butter. Stir vigorously until thoroughly mixed. The mixture should be very thin. Cook on a griddle. Serve with butter and syrup or with ham or chicken and gravy.

French Rolled Pancakes

- | | |
|----------------------|--------------------------|
| 2 eggs | ½ c. sifted flour |
| 1 c. hot milk | ¼ tsp. salt |
| 2 T. melted butter | ½ tsp. grated lemon rind |
| 1 tsp. baking powder | |

Beat eggs until light, gradually add hot milk and mix well. Add melted butter. Sift, then measure, flour; sift again with salt and baking powder. Add to first mixture with lemon rind and beat smooth. Pour onto griddle to make pancakes 3 inches in diameter. When cooked spread with butter and roll up like small jelly rolls. Serve with hot cherry sauce.

Cherry Sauce

- | | |
|----------------|------------------|
| 1 tin cherries | 2 T. cornstarch |
| ½ c. sugar | 1 T. lemon juice |

Heat cherries and juice. Mix sugar and cornstarch and add gradually to cherries, stirring constantly. Cook until thickened. Add lemon juice and serve over hot rolled pancakes.

Bran Pancakes

- | | |
|-------------------|----------------------|
| 2 eggs | 5 tsp. baking powder |
| 2 c. milk | 2 T. shortening |
| 2 c. sifted flour | 1 c. bran flakes |
| 1 tsp. salt | |
| 2 T. sugar | |

Beat egg, add milk. Sift dry ingredients; add and beat until smooth. Add shortening, which has been melted and cooled slightly, and bran flakes. Stir until blended. Bake on griddle.

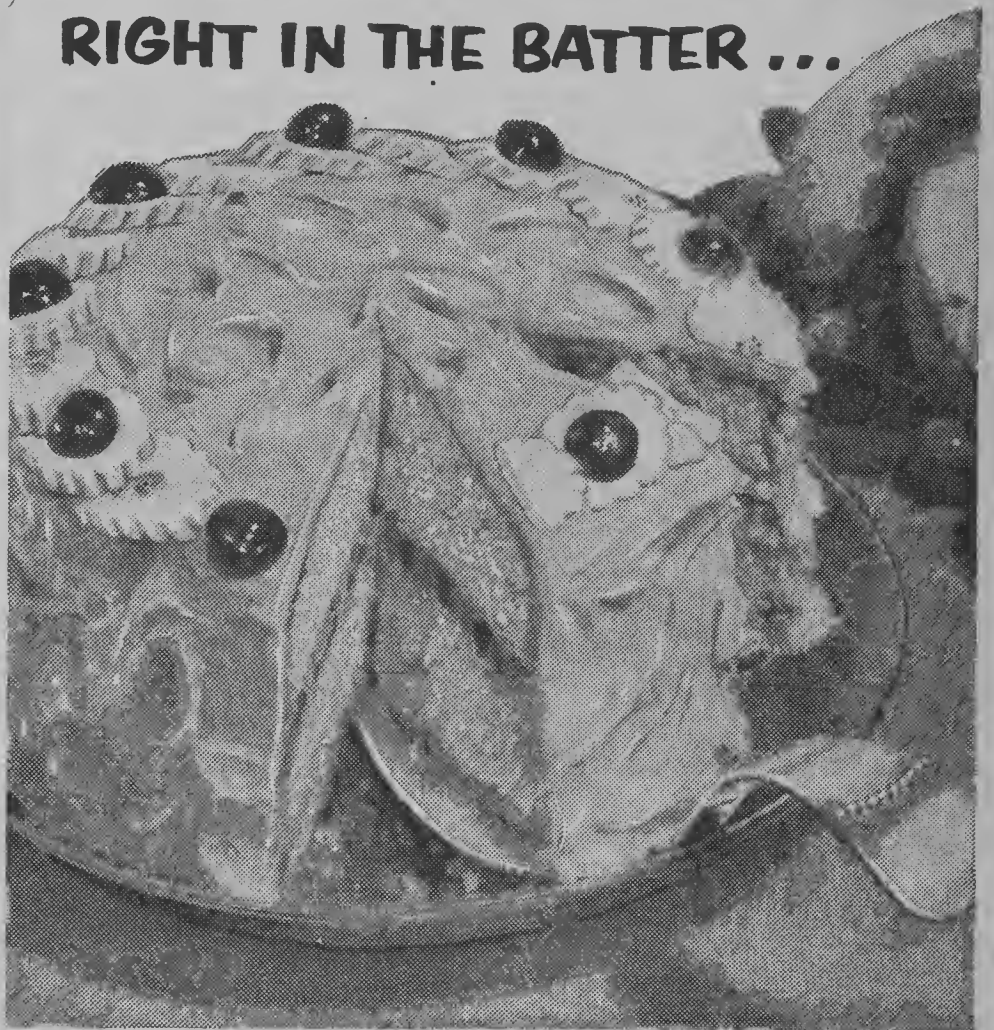
Supper Pancakes

- | | |
|--------------------------|--------------------|
| 2 eggs | 3 c. flour |
| 2½ c. milk | ½ tsp. dry mustard |
| 2 T. baking powder | 1½ tsp. salt |
| Slices of cheddar cheese | ½ c. melted fat |
| | 1 c. bran |

Beat eggs, add milk and mix well. Sift flour with baking powder, salt and mustard; add to first mixture. Add melted and cooled fat and bran. Slice cheese very thin. Dip in batter and bake on hot griddle, turning only once.

RIPE Bananas

RIGHT IN THE BATTER ...



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MARASCHINO-BANANA CAKE

- | | |
|--|-------------------------------|
| 2 cups once-sifted pastry flour | 10 tbsps. butter or margarine |
| or 1¾ cups once-sifted all-purpose flour | 1 cup fine granulated sugar |
| 2½ tbsps. Magic Baking Powder | 2 eggs, well beaten |
| ¼ tsp. baking soda | 1 cup mashed ripe banana |
| ½ tsp. salt | ½ cup milk |
| | 1 tsp. vanilla |

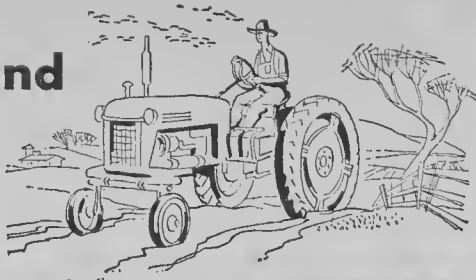
Grease two 8-inch round layer-cake pans and line bottoms with greased paper. Preheat oven to 375° (moderately hot). Sift flour, Magic Baking Powder, baking soda and salt together three times. Cream butter or margarine; gradually blend in sugar. Add well-beaten eggs part at a time, beating well after each addition. Combine mashed banana, milk and vanilla. Add flour mixture to creamed mixture about a quarter at a time, alternating with three additions of banana mixture and combining lightly after each addition. Turn into prepared pans. Bake in preheated oven 25 to 30 minutes.

MARASCHINO FILLING AND ICING: Cream 5 tbsps. butter or margarine; add few grains salt. Work in 2½ cups sifted icing sugar alternately with 2 tbsps. lemon juice and about 3 tbsps. heated syrup from maraschino cherries; beat in ¼ tsp. vanilla. Take out about a quarter of the mixture and beat into it ¼ cup well-drained cut-up maraschino cherries and about ¼ cup sifted icing sugar; put cold cakes together with this mixture. Cover cake with the remaining icing and decorate top with diagonally-cut serrated banana slices and drained halved maraschino cherries.



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he chooses the best, the one that will out-last and out-perform all others.



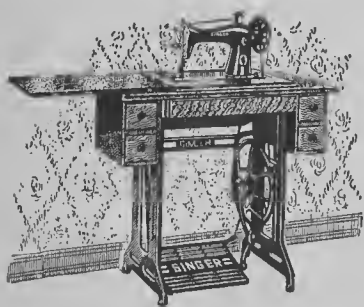
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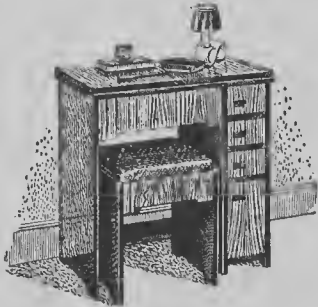
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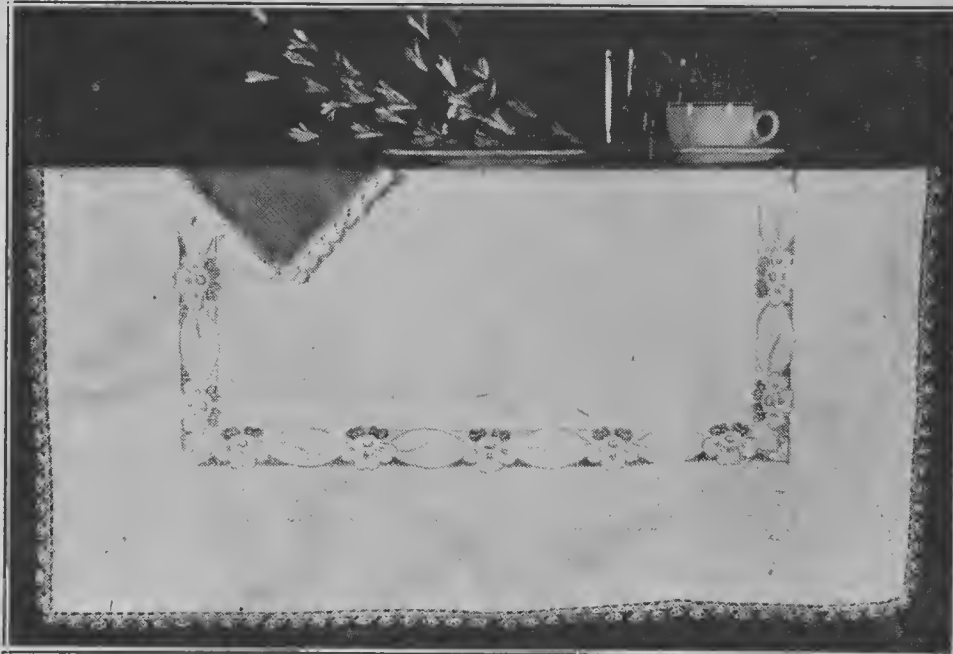
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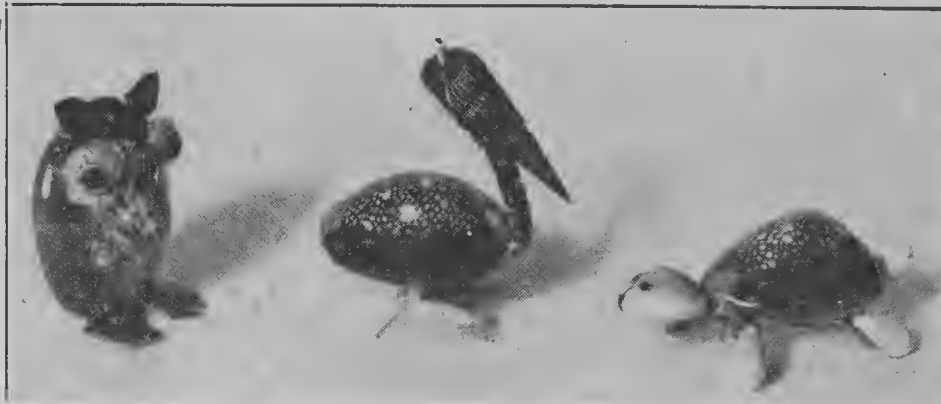
Design No. 826 Simulated Cutwork Set



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Back Talk

A full-length mirror will tell you how you look to those behind you

by LILLIAN VIGRASS

A GLANCE in the hall mirror as you are ready to go out will tell you if your hair is tidy, your nose is powdered and if your smile ready. But what about the back view? How are the stocking seams, hem and your hairline? As many people see you from the back as face you and grooming faults are as easily seen from there. So take time for a second look and note each detail of your entire costume.

A full-length mirror is a must for a careful check on one's appearance. Have it located in a good light and as you go about your household duties glance in it often. Note your posture each time you pass it, then pull in your tummy and straighten your shoulders. Before long you will find you stand straighter and that you have a much better figure. You will soon be improving the fit of your house-dresses and thinking about having your hair trimmed more often, too.

When dressing for a special occasion check with that mirror extra carefully. Start with your shoes. Shoes with run-down heels can ruin the appearance of the smartest outfit. Yet new heel lifts cost only a small amount. Have the lifts replaced before there is a sign of wear on the heel itself, or the shoe begins to lose its shape. A good polish on black or brown shoes or well-cleaned dress shoes are a factor the well-dressed woman cannot overlook.

Check the stocking seams. Unless you wear seamless hose—and they are not flattering to any but very slim legs—the seams must run straight up the back of the leg. Some grooming specialists advise that if the legs are very rounded the seam turned an inch or two to the inside may give a slimmer appearance, but be careful not to overdo it. To correct a wayward seam undo the stocking and slip it down to the ankle or toe as necessary. Then bring it up over the leg again, guiding the seam directly over the heel and up the center back. Correct the garters to hold it firmly in place.

Next observe your hemline. The correct length is a matter of personal opinion and depends on the length which is most becoming as well as the latest style. That the hem be even all around with no sagging bias sections or short parts at the seams is even more important.

Sagging bias sections of a hem are due to the weight of the material pulling down on the stretchy parts of the skirt causing them to hang lower than the rest of the skirt. Ironing on the straight of the goods at all times will prevent stretching as will allowing a new dress to hang for at least 24 hours before marking and putting in the hem. If the skirt is too short at the seams it may be because the seams have been stitched with too tight a tension. Pull gently on each seam. If the stitching breaks, restitch with a looser tension.

It is not easy, working alone, to correct an uneven hem, but it can be done. Mark an even distance from the floor with pins or a chalk, using the table top or a chair as a guide. Then

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Winnipeg. "My skin looks fresher and more attractive since I use Noxzema," says Juanita Malone. "I like it for my night cream because it's *greaseless!*"

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measure from this mark to the correct length all around. If anyone is nearby to help, have them place a row of pins along the new hemline after the original hem has been let down and pressed.

With a sheer dress, not only the hemline of the dress but also the petticoat hem must be even and of the correct length. Most of the slips of today are so sheer that they alone are not enough beneath a light dress. A cotton or taffeta petticoat worn with a camisole is best. Be sure the petticoat fits well at the waist and hips for a sleek line and that the hem is approximately an inch shorter than the dress. A too-short slip is as bad as one that is too long.

If you are wearing a sheer blouse or dress, care must be taken, too, to see that the top of the slip or camisole is so made that it covers all other underclothes and leaves a straight, shadowy line across the back. The straps should be wide enough to cover other straps or at least lie side by side over the shoulder. Torn lace looks careless and too lavish a camisole is poor taste for all but the most formal affairs. Too sheer a nylon slip under a sheer blouse or dress allows the undergarments to be seen and is most unattractive.

Straps are more difficult to keep in place, I find, with a sleeveless dress or blouse. If they will not stay up even when kept as taut as is comfortable, it may be wise to sew a ribbon stay with a dome fastener at one end along the shoulder seam of the dress. Slip the stay over the straps and dome in place.

Belt stays, too, are a must for the average dress. They hold the belt at the waistline, keeping the waistline seam covered. If a stay breaks it is usually due to the dress being either too long or too short at the waist.

With skirts and blouses it is even more important that the waist be kept neat and the belt in place. Blouses and skirts that are forever pulling apart or blouses that come out with every movement need correction immediately. Be sure any blouse you buy is long enough that it will stay tucked in, and keep the skirt belt taut enough that it will not slide. If the skirt still slips there is a special belting on the market that can be sewn inside the belt. It has bands of elastic on it that grip the blouse and hold the two securely together.

After checking your costume it is time to look at the back hairline. Many coiffures that look most attractive from the front are anything but handsome from the back view. Straggly back hair that has lost its curl is the worst offender. If the back hair won't stay up, give those straggly locks a home permanent or have your hair trimmed so short that uncured locks won't matter. Another common fault is to pin the back hair into a tight little roll. It may be neat but it is certainly not flattering or attractive. A new home perm or closely trimmed back hair may be the answer.

Combings and dandruff are obvious on the shoulders of a garment—showing up badly on blue or black. A thorough brush-off is the final step in grooming routine. A make-up cape or towel worn around the shoulders while applying make-up and combing your hair is a simple and easy way to avoid the signs of a hasty grooming job.

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Good Grooming Habits

Developing right beauty habits will bring rich rewards

by LORETTA MILLER



Louise Allbritton uses a touch of cream to keep upper eyelids soft and smooth.

IS your beauty and good grooming schedule like a jigsaw puzzle, or does each step fit together smoothly with a minimum of effort? From the time you get on your feet in the morning until breakfast time, step should follow step until you arrive at the table looking bright-eyed and alert. A schedule that gets you off to bed in a hurry when the day's work is done is equally important to every busy girl and woman.

As soon as a child is five or six years old, and whether she performs her own grooming rites or has them performed for her, there are three basic steps in her routine: brushing the teeth; washing the face and hands, and dressing her hair. These three steps will remain to be applied by her every day, and laying a right foundation will naturally make the day-in-day-out routine pleasant as well as refreshing.

Brushing the teeth is probably the first important step in every morning schedule, and the right brush and dentrifice will help make this step pleasant and beneficial. Be sure that the bristles of your brush are rounded instead of being cut straight across. The rounded ends will serve to massage the gums as well as thoroughly cleanse the teeth. After putting a little dentrifice on the bristles, move the brush upward then downward in short, quick strokes until the teeth have been well brushed and all food particles removed.

If you find it difficult to brush between the teeth, use a piece of dental floss for this purpose. Dental floss may be bought in your local chemist's shop. Ask your dentist about using it correctly. You might also ask him to recommend the best dentrifice for your teeth. In case of an emergency, you will find an equal mixture of regular table salt and baking soda excellent for cleansing the teeth and as an aid in making and keeping them white. Brush the gums well too in order to stimulate circulation and so help keep the teeth healthy. No evening schedule is complete without a thorough tooth-brushing.

EVERY child, sooner or later, is taught how to wash her face and she might just as well learn to perform this daily rite correctly. Scrubbing the face with a coarse-textured washcloth and a good lather will do much to keep youthful skin lovely and in good

condition. Scrubbing with a firm circular motion will help make the skin fresh looking. Then rinse off all soap with warm, then cold, water and dry well. If the skin feels chapped and parched during extreme cold or extreme hot weather, it's well to smooth a little greasy cream over face and throat after drying.

Use any good lubricating cream, petroleum jelly, camphor ice, cocoa butter or pure toilet lanoline. Lanoline, more than any other substance, resembles the natural oil of the skin. Although it is not scented, it is excellent for protecting the skin against chapping, windburn or natural dryness. The application of lubricant should be left on for from five to ten minutes, or longer if possible.

Use a clean brush with rather stiff bristles and brush your hair well. Then straighten the part and brush your hair straight back away from your face-framing hairline. You can complete your hairdo and put on makeup after breakfast, or, if you wish, you may do so now. However, be sure that you arrive at the breakfast table looking your best.

Since good habits are as easily formed as bad ones, and because bad habits are sometimes hard to break, it's well to start right. Get in the habit of dressing neatly, putting on whatever makeup you use correctly, and arranging your hair just right and you will always look your best. The habit of rushing through the morning toilet will result in a carelessly dressed appearance.

Because one generally has more leisure at night than in the morning, baths, shampoos, manicures, pedicures and any other special attention should be given at night. It's easier then to push back cuticle on toes and fingers after a bath. Scrub hands and feet well, dry thoroughly, then use an orangewood stick for pushing back the cuticle. Shaping toe and fingernails should be done before the bath. If you've had a hectic day, a leisurely bath will prove most soothing and prepare you for a restful sleep.

Putting up the hair tonight will assure you a lovely hairdo tomorrow. If you have had trouble making your hair appear well set, try this: before having your bath, but after cleansing your facial skin, brush your hair well and put it up in curls. If you use little bob-pins, hairpins or special curlers, put your hair up without wetting it. Then take your bath. The steam from the bath water will furnish just the right amount of moisture to help your hair curl into soft waves the next day. After securing each curl in place, adjust a net cap to hold the curls flat.

When you have completed your evening routine, and just before turning out the light, massage a liberal amount of lotion or cream over your hands and elbows. During these chilly days, you might find it wise to use such a corrective aid over shins, heels and calves of legs, as well as over upper arms and shoulders. If lips are chapped and rough, by all means use a lip pomade or a smoothing on of camphor ice at night.

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From Teaching

Continued from page 68

speak to me for years afterwards. But we had a chat together about it, and became good friends again, before he died."

Though the women of Manitoba were the first in Canada to gain the franchise and were thus enabled to vote in the 1917 Dominion election, Alberta had the distinction of being first in having women actually sitting as members in the legislature. Francis and Lillian both assisted in every possible way in helping the cause in Alberta and Saskatchewan.

FOR an interval the Thomases lived in New York. Francis Beynon had gone there in the summer of 1917 and was later joined by Lillian and Vern. They availed themselves of the many fine opportunities to study fiction and drama and to get acquainted with other leading writers. Lillian attended classes at Columbia University in short-story writing. Plays became her particular delight and she saw as many as she possibly could of the plays running in New York's famous theatre area.

Back in Winnipeg again, in the early 1920's she conducted classes in fiction technique. Many of her pupils have since gone on to find jobs or to make a name for themselves as writers of short stories, novels, radio scripts, or fact articles on a free lance basis. The aspiring amateur and the seriously intent writer learned much from her and her classes about the underlying construction framework of any piece of good writing. They lost self-consciousness as they learned to take and give criticism of each other's work. They all agree that they owe much to Mrs. Thomas for her quiet encouragement and firm insistence that they "produce." They considered her a master in the art of giving criticism and advice, kindly.

Lillian Thomas, since her return to Winnipeg, has devoted her time and thought to writing fiction and plays. Mr. Thomas joined the editorial staff

of the Winnipeg Tribune. She chose freedom from a desk job, preferring to select her own themes and make her own working time. She won a prize of \$500 for a short story in Maclean's Magazine in its first fiction contest, followed later by two \$1,000 awards from McFadden publications for "best stories in the month." She wrote a one-act play "Jim Barber's Spite Fence," which was produced in Winnipeg and entered in the Dominion Drama Festival at Ottawa, in 1932, winning high praise in both cities as an all-Canadian production. She wrote a three-act play "Among the Maples," based on the strong political feeling between the "Grits" and the "Tories" in Ontario's early days, which was produced by Winnipeg Little Theatre Group.

In 1946 her short novel *The New Secret* was published. In the summer of 1948, Mrs. Thomas, along with a small group of Canadians, attended a six weeks' course in fiction and drama, at Boulder, Arizona. There she wrote a play based on the life of Abraham Lincoln which was produced at the school. Passing years, changes and ill-health have served to limit her activities. Mr. A. V. Thomas died in September, 1950, and in October of the following year, Francis Beynon, who had returned to Winnipeg to be with her sister, died.

Lillian Thomas has through the years maintained her interest in questions of the day. She has belonged to the Canadian Women's Press Club, the Canadian Authors' Association and the University Women's Club, and has served on the executive of many organizations. Her interest in any live topic has always been keen. Her life is rich in friendships now close and warm. There are those who still seek her counsel on a piece of writing.

She has an abundant faith in young people and in the future of Canada. Her remark on the occasion of my visit for an interview is typical of her spirit: "I'm glad to be living in an age of such perplexing problems. They present a challenge to all thinking Canadians."

CFA Meeting

Continued from page 7

fortunately, we cannot sell on the British market because we won't take the price they can get farm products for elsewhere. The Minister quoted the following prices for commodities laid down in the United Kingdom (1952 Canadian price in brackets): Carcass beef—Argentina, 16 cents lb. (44 cents); bacon—Denmark, 31.5 cents lb. (42 cents); butter—New Zealand, 36.7 cents lb. (58.5 cents); cheese—New Zealand, 21.3 cents lb. (28.5 cents); eggs—Denmark, 46.4 cents dozen (61 cents).

PRESIDENT HANNAM in his presidential address discussed farm stabilization and said in part: "Would it not be best for us to recognize the limitations of a price-floor program and, using it wisely, have its permanence more securely established; then use other measures and explore new methods to achieve balanced returns and stability . . . Progress in this direction will largely determine whether or not Canadian farmers can afford to produce to capacity."

Dr. E. C. Hope, economist for the Federation, devoted his entire presen-

tation to stabilization policy, which, he said, had received mention in every annual report of the Federation since 1944. He reviewed the U.S. farm stabilization program, the Brannan plan, forward pricing and other proposals. "Within Canada," he said, "our research work on this problem is practically non-existent . . . every country has different problems to face . . . Canadian agriculture has been a late-comer in the fight for its fair share of the national pie. Agriculture knows what it wants, but I doubt if it yet sees clearly a practical program to reach its objective."

The meeting later decided to set up a small committee to prepare a draft for a national farm policy. The report of this committee would then be referred to member organizations; and after the final draft was secured, it would be discussed with "a representative group drawn from various groups in our national economy."

THE liveliest discussion during the meeting developed around the protest from eastern Canada over the fluctuations in the supply and price of coarse grains to eastern feeders. This is a development which seems to be associated, in the minds of eastern live- (Please turn to page 78)

Men's Styles

No. 4107—A man's jacket to tailor in corduroy or tweed and a vest in check or plaid. Note the tailoring detail, the lapels, the cuffs and the pockets. Sizes 34, 36, 38, 40, 42 and 44-inch chest. Size 38 requires for jacket $2\frac{1}{4}$ yards 54-inch material, vest $\frac{3}{4}$ yard 54-inch. Price 35 cents.

No. 4134—Just like dad's and just as good looking, a jacket tailored to perfection in corduroy or tweed, a checkered or plaid vest. Sizes 4, 6, 8, 10, 12 years. Size 8 jacket requires $1\frac{1}{4}$ yards 54-inch, vest $\frac{1}{2}$ yard 54-inch material. Price 35 cents.

No. 4127—Make the dress shirts for your men, too. Just right with collar band, yoke, french or plain cuffs and a choice of three collar styles. Sizes 14, $14\frac{1}{2}$, 15, $15\frac{1}{2}$, 16, $16\frac{1}{2}$ and 17-inch neck. Size 16 requires $3\frac{3}{4}$ yards 35-inch material. Price 35 cents.

No. 2543—Boy's dress shirt that is just like dad's. Size 4, 6, 8, 10, 12, 14 and 16 years. Size 10 requires 2 yards 35-inch. Price 25 cents.

No. 3720—Men's slacks feature two front pleats, side pockets, two hip pockets, regulation fly, belt loops and pant cuffs. Sizes 28, 30, 32, 34, 36, 38, 40 and 42-inch waist. Size 38 requires $2\frac{1}{2}$ yards 54-inch material. Price 35 cents.

No. 4132—Boy's slacks with one front pleat, one hip pocket, belt loops, fly and cuffs. Sport shirt included in pattern. Sizes 4, 6, 8, 10, 12 years. Size 8 requires 2 yards 35-inch, $1\frac{1}{2}$ yards 54-inch material. Price 35 cents.

No. 4150—A western-style shirt that is fun to make and fun to wear. Can be made in one color with a bright piping or in a two-tone effect. Sizes 14, $14\frac{1}{2}$, 15, $15\frac{1}{2}$, 16, $16\frac{1}{2}$ and 17-inch neck. Size 16 requires $3\frac{3}{4}$ yards 35-inch material, 2 yards 54-inch. Price 35 cents.



4134



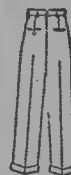
4127



4150



4107



3720

No. 2172—A bathrobe with lapels or a roll collar, a generous cross-over at the front and a tie belt. Sizes small (34-36), medium (38-40) and large (42-44). Medium size requires 5 yards 39-inch material or $3\frac{1}{2}$ yards 54-inch. Price 25 cents.

No. 4133—Boy's robe to match dad's. Sizes 4, 6, 8, 10, 12, 14 and 16 years. Size 10 requires $3\frac{1}{2}$ yards 39-inch material. Price 35 cents.

No. 4108—For dad, pyjamas with lapels, a back yoke and a draw-string waist. Sizes small (34-36), medium (38-40), large (42-44) and extra large (46-48). Large size requires $5\frac{3}{8}$ yards 39-inch material. Price 35 cents.

No. 2541—Pyjamas like dad's for the young fry. Sizes 4, 6, 8, 10, 12 and 14. Size 8 requires 3 yards 39-inch material. Price 25 cents.

No. 4151—These shorts are one of the new father-and-son fashions. A choice of boxer type or style with button-over waist band and double seat. Boys' sizes 4, 6, 8, 10, 12 and 14 years. Size 8 requires 1 yard 35-inch material. Price 35 cents.

No. 4149—Father's shorts are just like those shown. Men's sizes 28, 30, 32, 34, 36, 38, 40, 42, 44 and 46-inch waist. Size 36 requires $1\frac{1}{8}$ yards 35-inch material. Price 35 cents.

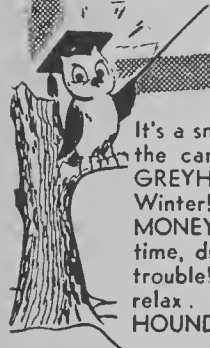
No. 4167—A toddler's two-piece suit and overalls with snap-up legs. There's elastic at center back and cross-over straps that button to the bib front. The top is tucked and piped. Transfer of a choo-choo train included. Sizes 6 months, 1, 2 and 3 years. Size 2 requires for top $\frac{3}{4}$ yard, pants $\frac{7}{8}$ yard 35-inch material; two-piece suit $1\frac{1}{2}$ yards 35-inch. Price 35 cents.

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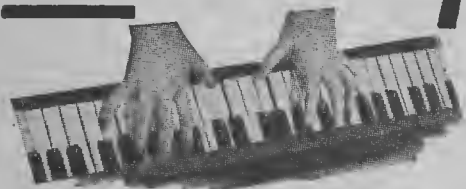
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stock producers, with the compulsory marketing of coarse grains by the Canadian Wheat Board. It achieved prominence first in the Federation two or three years ago, when there was a lengthy discussion on the subject, resulting in resolution containing a general provision to the effect that marketing of coarse grains should have general regard for the needs of livestock producers. Last year it was again discussed and, subsequently, a get-together was arranged between the four large western co-operative grain marketing organizations (the three Wheat Pools and the United Grain Growers Limited), as a result of which the western groups made a proposal with respect to the co-operative purchase of feed grains from the Wheat Board, by the three large co-operatives in eastern Canada. This proposal did not work out, and again this year, eastern delegations were insistent that their interests be looked after.

Western grain producers, on the other hand, were very firm in stating that they would brook no interference with the Canadian Wheat Board, which had been built up as a result of 50 years of hard struggle to establish a satisfactory system of grain marketing. Eastern feeders could not rightfully interfere with this system of grain marketing, since the western grain producer paid the entire shot. If, as the eastern feeders suggested, a supply of several million bushels of coarse grains were held in eastern positions and if this grain were not sold, the cost would have to be borne by the western grain producer, which was not fair.

A kernel of the problem is, partly, the fact that to permit compulsory marketing of coarse grains by the Wheat Board, and to give effect to legislation by each of the three prairie provinces, a permissive clause was introduced into the Wheat Board Act, which not only gives the Board power to market coarse grains, but stipulates that such marketing must be done in the interests of the producer. This stipulation does not exist with respect to wheat: if it did, the Board would not be compelled to sell all wheat required for the domestic market at International Wheat Agreement prices.

The eastern people contended that speculative interest is the colored gentleman in the woodpile, and that

if it were eliminated and the Wheat Board more or less enjoined not to use the facilities of the trade, worrisome price fluctuations would diminish.

Other complicating factors are: (1) that the eastern feeder customarily buys feed in relatively small quantities, ready-mixed and bagged, all of which adds to the cost; (2) that the three co-operatives, United Co-operative Services in Ontario, Co-operative Federee in Quebec, and the Maritime Co-operatives Limited in the Maritime provinces, together control no more than about 25 per cent of the feed trade in eastern Canada; and (3) that the feed trade assistance policy of the federal government (by which \$6 per ton of freight cost is paid as far as Montreal by the government, and all of the feed freight cost is paid to the Maritime provinces) has the effect of creating bigger percentage price fluctuations in the Maritime provinces than elsewhere.

There is still some misunderstanding on both sides, in all probability, but it was very clear at the Victoria meeting that each side in the controversy was endeavoring to understand the other's point of view, and the amount of harmony that prevailed was most gratifying despite the strong feeling of the eastern people that they had a grievance for which a remedy must be found in some manner. Fortunately, the Federation provided a common meeting ground, and as a result of all the discussion, a committee of four representatives from the East and four from the West was appointed, with President Hannam as chairman, to meet shortly in Winnipeg and hold a brass tacks conference with the Wheat Board.

At each CFA annual meeting the Dairy Farmers of Canada present a policy statement which is drawn up at their annual meeting, held immediately preceding the meeting of the Federation. This year's statement contained a vigorous request for provincial legislation to prohibit the manufacture or sale of products made with oils other than butterfat in imitation of, or as a substitute for, dairy foods. It opposed any reduction in the price of fluid milk, requested a two-year floor price of 63 cents a pound for butter, approved the principle of establishing a standard color for but-



The only two persons at the Victoria meeting, who were formerly members of The Canadian Council of Agriculture: Mrs. Violet McNaughton, Saskatoon, and S. S. Sears, Nanton, Alta.

ter if it proves practicable, urged the federal government to further seek and expand foreign markets for dairy foods, protested restrictions placed on the export of dairy products to the United States, decided to place more emphasis on the economic position of the dairy farmer in the publicity program of the dairy organization, and urged that both federal and provincial governments should be approached forcefully "with requests for fundamental research into milk and milk products, particularly in the field of solids not fat." A statement which was approved by the CFA recommended a study of formula milk pricing during the coming year.

It is customary for the swine and poultry commodity groups to meet apart from the general meeting and consolidate their views. The swine producers decided to give further consideration to proposed rail-grading changes suggested by the National Grades Committee. They endorsed the rail-grading of all hogs, but requested that if the United States market becomes available, every consideration be given to facilitate grading on a live basis for export "so that Federal premiums may be applied." The 23-cent floor price was believed to en-

courage a decrease in production below domestic requirements. An increase was requested to prevent such an occurrence. The government was also requested to investigate "all the elements of cost as between the purchaser and consumer in relation to all meat products."

The poultry committee believed the present price support for eggs is unrealistic and tends to create cycles of over and underproduction: it therefore requested a floor price of 45 cents per dozen for Grade A large into principal storage points across Canada. The committee also requested a floor price for poultry meats established at producer levels across Canada, specifying, among other grades, 38 cents for chicken over five pounds, 27 cents for fowl over five pounds and 39 cents for turkeys under 18 pounds. The committee reaffirmed support of the principle of producer-marketing boards, and urged a renewed effort for the establishment of a national poultry marketing board. The government was also urged to set up a research laboratory in western Canada because of the incidence of respiratory diseases. These separate resolutions with respect to both swine and poultry were approved by the CFA Board.

Australian Battle of Wheat

Procrastination, dissatisfaction and uncertainty still mark the wheat situation down under

by REAY WILSON

PROCRASTINATION in putting wheat marketing in Australia on a sound and satisfactory basis constitutes a serious threat to the present federal, or Australia-wide system of marketing. There is even a possibility of a reversion to a state marketing basis.

Though wheat provides Australia with a very important source of income, there has been a steady decline in acreages grown in the past five seasons. The main reason has been the open dissatisfaction of growers with average returns in relation to free market prices overseas, and the relatively more attractive prices available for wool.

The area under wheat has declined in the past five years. In 1947-48, 13.9 million acres were sown to wheat, but this year the area is only little more than ten million acres. Before the war the average was almost 13 million acres. Favorable seasons have contributed to relatively better harvests, and since the 1946-47 season, yields have not been below 15 bushels per acre. There is a possibility that the current season's yield may be higher than last season's 15.5 bushels, which compared with 17.8 bushels in 1949-50, and the prewar average of 11.89 bushels.

In an endeavor to encourage wheat production and expand rural output generally, the Commonwealth Government, supported by the state governments, set a wheat target of 13.65 million acres to be achieved by 1957-58. Also, to further a plan agreed upon by the agricultural ministers as a means of growing more wheat as quickly as possible and thus increasing exports, the government has given farmers incentives in the shape of tax remissions and concessions. Despite these incentives, wheat industry leaders say no appreciable increase in acreage appears likely until

growers have some guarantee of what they claim as fair prices for their crops, in both domestic and overseas markets.

FOR years now, growers have called for a long-term domestic marketing plan. They want all sales in the internal market to return at least the International Wheat Agreement price at the time of sale, or, in the absence of an international agreement, the open market price, less 2s. 6d. a bushel. They have also vigorously urged a guaranteed minimum price, not less than the cost of production plus a reasonable profit; and have offered to contribute 1s. per bushel on export wheat for a fund to safeguard the minimum price.

The Commonwealth Government does not see eye to eye with the growers and obviously desires to integrate its domestic wheat policy with its overseas wheat obligation. Further, it wants to wait until it knows whether the I.W.A. is to be extended or not. Until this is known, the government has offered to extend the present five-year stabilization plan for another year, and then to plan for a long-term domestic wheat policy. Wheat industry leaders are agreed that delay on the government's part is quite unnecessary, that an internal stabilization scheme is in no way dependent on the International Wheat Agreement.

When the state ministers for agriculture met the Commonwealth Minister for Commerce and Agriculture, Mr. McEwen, last October, they decided that they would ask their governments to extend the current stabilization scheme for another year, to include the 1953-54 harvest. The state ministers also agreed that the extended scheme should be followed by a five-year plan beginning with the 1954-55 harvest. Operation of this five-year plan would depend upon

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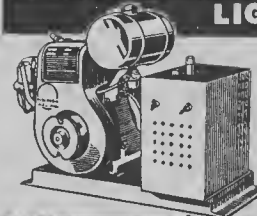


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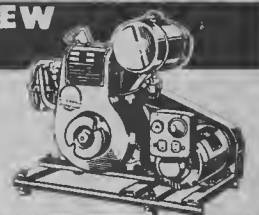
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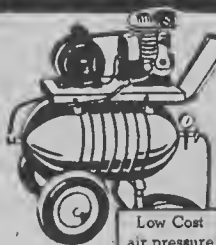
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legislation by the Commonwealth and each state government, and upon its acceptance by growers by ballot.

ALTHOUGH the price of wheat rose on November 30 to 11s. 11d. a bushel for human consumption and to 13s. 11d. a bushel for stockfeed for the 1952-53 crop, the rise is destined to please nobody. The Commonwealth Government will continue to pay a subsidy on a maximum of 26 million bushels of stockfeed wheat to bring it to the I.W.A. price of 16s. 1d. a bushel. This means the Commonwealth will pay a subsidy of 2s. 2d.

a bushel on stockfeed instead of the 4s. 1d. it has been paying.

The new prices have been arrived at by the Australian Bureau of Agricultural Economics. after a review of the movements in the costs of production in the wheat industry. There have been large rises since last season in labor, fuel and fertilizer costs on the farm and in freight and handling charges. The bureau's review of costs has been closely examined by state ministers, the Australian Wheat-growers' Federation, and a representative of the Australian Agricultural Council.

Oldest Horse in the World

Born in Denmark, Old Tulle, at 58, though still spry and frisky, is retired

by KAJ V. CARLSEN

OLD TULLE is the oldest horse in the world. She is not very big but is still spry and frisky. Andreas Jensen, son of her owner, and egg dealer in the peaceful little town of Maalov, Denmark, believes she is good for another twenty years or more.

He knows how old she is, because, in a sense, they are twins, both having been born on the same day, August 19, 1894. Old Tulle, therefore, is in her 59th year and has easily lived twice the lifetime of many old horses.

Old Tulle is given good care by her kind owner, Soren Jensen and his wife, Petrine. Mr. Jensen is 88 years old, and like Tulle, Mr. and Mrs. Jensen have retired, too. Being a "pensioner," Tulle enjoys complete freedom, having long ago been separated from bit and bridle, after having pulled a heavy milk wagon for 32 years.

Daily the two ancients, Soren and Tulle, walk down to the nearby bog where Tulle likes to take a drink. At mealtime she goes up to the house with the rest of the folks and is fed by Mrs. Jensen as in the picture below. Every day she takes her constitutional through the old village with its pretty church, erected 1,200 years ago by Bishop Absalom, the founder of Copenhagen.

Inside the old churchyard wall, too, the family will find a final resting place, and Old Tulle will be near them. A burial ground has been reserved for her close to the wall—on the outside. Like many old people, Old Tulle has recently been somewhat hard of hearing.



The "twins"—Old Tulle and Andreas Jensen, both born Aug. 19, 1894.

Tulle is famous, of course, especially throughout Denmark. Veterinarians and learned biologists have marvelled at her long life. Andreas Jensen, her "twin," who was baptized in the ancient church, and like Tulle, has lived all his life in the idyllic little town and whose company Tulle prefers, believes the reason for her long life is that she likes beer. He contends that her daily bottle is responsible for her friskiness and youthful appearance.



Old Tulle has breakfast served by Mrs. Petrine Jensen, with her owner Soren Jensen in the background.

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IN barn lofts, around elevators and in public parks and streets the world over, we find common pigeons. A flock of pigeons seems, sometimes, to behave like people. One will strut up and down in an important fashion watching to see if he is being noticed. Others walk happily around peacefully picking up grain seeds while another fellow seems quite quarrelsome and flies at other birds.

Homing pigeons have been used as messengers in time of war, especially when it was impossible for a message to get through in any other way. Pigeons were able to fly as far as one thousand miles with a message which was contained in a small tube fastened to the bird's leg. Even pigeons which had been wounded by gunfire succeeded in bringing back their message.

Pigeon racing is conducted in many countries. In Belgium it is the national sport and receives as much attention as our outstanding hockey and baseball games. The birds are flown to France and other countries and timed for the distance they fly to reach home. A pigeon has three eyelids—when the weather is fine all three lids will be open but if the weather is bad the bird can close one or two lids and continue flying with his eyes protected. On clear, quiet days the pigeon flies high in the air almost out of sight, on windy or rainy days it flies close to the ground for shelter.

Knowing these things about the birds, you will enjoy watching a flock of pigeons in your farmyard.

Ann Sankey

The Strange Valentine

by Mary Grannan

THE little green schoolhouse that sat on the snow-covered hilltop was buzzing with action. The children were running from one desk to another, borrowing scissors, returning paste pots, snipping pink and red ribbons, and cutting out red hearts.

Tomorrow was St. Valentine's Day, and today the teacher in the little green school had given the children the afternoon off from their usual work, to make a valentine box.

"And when we get the box decorated, may we make some valentines, Miss Dewar?" asked Jimmy Daniels.

"Yes," smiled the teacher. "This is your afternoon, to do whatever you please."

"I've got a lovely idea," said little Penny Flett. "My mother gave me a bag of lozenges (they're little candies, you know) and I'm going to paste them on some of my red hearts, and I'm going to print:

*"Roses are red, violets are blue,
Candy is sweet, and so are you."*

The teacher laughed and told Penny that it was a very nice idea, indeed. "But," she said, "you'd better wrap your candies in paper before you stick them to the hearts, Penny. If you don't, the one who receives the valentine won't be able to eat the candy, and that would be a great disappointment."

Penny agreed, and several of the children offered to help her wrap the candies in bits of paper. Jimmy Daniels wrinkled his nose, and said, "Yum, yum, do these lozenges ever smell good! I hope you think I'm as sweet as sugar, Penny."

A little mouse, who had scampered up the water pipe from his home behind the furnace, wrinkled his nose too, and hoped the same thing. "Yum, yum!" he said to himself, "I've never smelled anything so lovely. Those candies smell like roses and violets

and lemons and oranges all put together. I'm going to get some of them as soon as the children go home."

But when the children left, the old janitor came to sweep up the dust, and he had no sooner gone home, than the parents of the children began to gather for their monthly meeting with the teacher.

The little mouse, by this time, was so hungry for the candies that he had all he could do to keep himself from leaping boldly into the valentine box, in front of everyone. But he sat on his tail, to pin himself down, and he waited.

When the clock in the tower in the valley struck the midnight hour, the meeting was over. The time had come. Little Mouse leaped into the beautiful box, wherein lay the candied red hearts.

He nibbled happily at the first one he found, which happened to be on the top of the pile. He burrowed in among the lovely valentines then, to find another candied heart. Penny had made a great many of them, that happy afternoon. Deeper and deeper, he burrowed his way, eating all the time, and when at last he reached the bottom of the box, he was very full and very drowsy. Little Mouse went to sleep.

He was still sleeping, when the school bell rang the next morning. He slept through roll call and morning devotions. In fact he didn't wake until he felt himself being picked out of the box by a soft, pink hand. His sleepy head was nodding, as with a red heart around his neck, the teacher brought him out of the box. She squealed when she saw what she had in her hand. The children howled with laughter.

Miss Dewar dropped the now frightened mouse back into the box and quickly replaced its cover.

"Miss Dewar," said the still laughing Jimmy Daniels, "Penny says that the mouse was wearing the valentine

she sent me, on his neck, so that makes the mouse my valentine, and Miss Dewar, I'd like to have my valentine, if you don't mind."

Miss Dewar, now over her sudden surprise at finding herself with a mouse in her hand, said, "Very well, Jimmy, you may have the valentine, if you come up here and get it. I don't think I want to pick it up again."

The children sat very, very quietly, while Jimmy carefully lifted the lid of the box, and picked out the little mouse. "Hello, Valentine," Jimmy said softly, "I'm very glad to meet you. I'm going to keep you for a pet. You'd like to be my mouse, wouldn't you?"

Valentine Mouse knew that he had found a friend, and happily climbed to Jimmy's shoulder and waved a paw to the laughing children.

"Penny," said Jimmy, at recess, "I want to thank you for my valentine mouse."

"But Jimmy, I just gave you the heart around his neck," said the little girl.

"But if you hadn't put the candies on the red heart around his neck, he

wouldn't have gone into the box, so I say, 'Thank you, Penny,' for the strangest valentine I have ever had."

"And the happiest," squeaked Valentine Mouse.

Gypsy, Gypsy

Gypsy, gypsy,

You spoke true

When you read my palm and said

I was kin to you.

Gypsy, gypsy,

What you did not know

Is, I have sold my heritage.

I can never go.

Where the roads are luring

Past the bolted door!

I have sold my trails to buy

Peace forevermore.

Gypsy, gypsy,

I'll pay coin of pain,

And I'll buy my heritage

Back again!

He shall, when his heart breaks,

Find another bride.

I shall tramp the highroads,

Gypsy, by your side.

—MARY CAROLYN DAVIES.

Sketch Pad Out-of-Doors

No. 13 in series—by CLARENCE TILLENIUS

AN outing which everyone on the farm awaited with ill-concealed anticipation as harvest time came on was the annual expedition to the "cranberry bush." The "bush" was many miles away and we usually took team and wagon, since we expected to, and sometimes did, come back with several gunny sacks full of cranberries. Moreover, it was always looked upon as a picnic, with food enough to swamp a threshing crew and pails, belts, straps, tins and boxes sufficient to equip a small army.

The high bush cranberry is not usually found listed under that name in botany books. But when I put the finger on my good friend W. R. Leslie of the Dominion Experimental Farm at Morden, for the correct name, his reply was somewhat paraphrased: "Call it *viburnum* if you want to be high-falutin—but anyone who wants to call it a high bush cranberry is quite correct and will be understood."

When an artist sees something he

wants to draw, what does it matter to him whether he knows the scientific name or not? All he knows, or cares to know, is that the shape and color please him. And so he draws it.

In tackling a subject with fairly intricate detail such as a leafy branch, one may be puzzled where to start. The branches are the skeleton, as it were—so begin with them. Lightly sketch in the lines of the main branch first, ignoring the leaves. When the branches with their angles and curves are down correctly, block in roughly the leaf masses—not one leaf at a time, but in groups as they hang on the tree. The leaves usually obscure your view of the twigs they are fastened to, so examine a group carefully before you begin to draw it.

It is well to put the date and the time of day on such a drawing—if done in the woods—since the shape and color of leaves vary from spring to fall and shadows alter with the sun's progress each day.



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Saskatchewan River Development

THE Royal Commission on the South Saskatchewan River Project has reported against the Project on two counts: (1) that the cost would be too high at the present time; and (2) that it should be delayed, in any event, until a satisfactory proposal for making the most efficient use of the limited water available for irrigation and power development in the Saskatchewan River basin, has been determined in the national interest.

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THE Commission estimates the capital cost of the project at \$247.9 million, and the accumulated net deficit 35 years later, at \$310.2 million. Capital costs are grouped as follows: an estimate requested from a private firm, for the main works and power plant, of \$163.7 million (main works, \$139.8 million, power plant, \$24 million); the Commission's own estimate of \$45 million for the irrigation system; a similar estimate of \$30 million for 12 pumping stations; \$9.1 million for the acquisition of land; \$190 million accumulated interest deficit, without compound interest, by Year 35; and a further amount of \$9.1 million for land acquisition in later years. From the total thus secured, deductions are made for capital value of power, municipal water service, relief savings, and land value of irrigated land at Year 35 (1921-48 prices), to bring the net figure to \$310.2 million.

These extravagant figures are difficult to accept, especially since no detailed plans and specifications for the project have yet been made by PFRA, who were the planners of the project. There was, therefore, no precise basis on which the Commission could secure a reliable estimate, since the estimator was without the information essential to such a calculation. The PFRA estimate, revised since 1951 because of major changes in materials and design, would stand at perhaps \$120 million, although no new figure has been issued. This would include the dam and reservoir, power plant, and irrigation system, with some allowance for additional costs. The Commission's estimate for these items is \$197 million, leaving a difference of some \$77 million to account for.

Some help is afforded by grouping certain items in the Commission's estimate of cost, which seem, in total at least, to suggest overgenerosity and duplication. Such more or less similar items as miscellaneous service and general plant operation, \$5.1 million; contractors' contingencies, \$4 million; contractors' general expense, \$12.3 million; and contractors' general overhead and profit, \$15 million, total \$36.4 million. If we add to these, \$10 million for escalation of wages and materials; \$8 million for engineering service; and \$6.1 million for interest on money required during construction, the handsome total of \$60.5 million is achieved. This figure, alone, adds strength to the Commission's statement that "the preparation of the cost estimate . . . was undertaken and completed . . . in a far shorter period of time than would normally be required for work of this kind."

These, however, are not the only evidences of unfairness in the Commission's \$247.9 million figure. Reference is made to the \$45 million cost of the St. Mary project (1951), as compared with the \$15 million estimate of 1942. No reference is made to the fact that construction costs approximately doubled during the period, while the St. Mary dam itself, cost only 25 per cent more than the estimate; or that the St. Mary project was greatly increased in size and design, in the interim, due to policy changes for which PFRA engineers were in no way responsible. In similar fashion, the reference to an estimate of \$290 million for the Garrison Dam on the Missouri River was misleading, since no mention was made of the fact that

this dam is nearly twice as long as the South Saskatchewan River dam, and has, not three conduits, but seven tunnel outlets, and a spillway more than twice as large. Likewise, the Commission suggests \$75 million as the cost of the irrigation system, and the 12 pumping stations. Based on current work under way on the St. Mary and Bow River projects, involving about 400,000 acres of land, recent PFRA estimates for the South Saskatchewan water distribution, call for an expenditure of less than half the amount suggested by the Commission. Everything considered, it is difficult to accept any substantial part of the Commission's cost finding as promising any close relationship to reality.

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COST figures aside, however, the Commission is straining credulity and logic when it suggests that to go ahead with this project now could readily endanger the Canadian economy, which is already at full employment. It would probably require ten to 15 years to complete the entire project. If the Commission's unrealistic estimate is reduced to reasonable proportions, it is difficult to see how a comparatively moderate expenditure over such a period can be successfully balanced against the need of the prairies for the conservation of water that is now lost to the sea.

The Commission reaches safer ground in its recommendation that a full study be made of the entire water possibilities of the Saskatchewan River basin. If it is true, as the Commission says, that "all the water of the South Saskatchewan River, and all that could be diverted from the North Saskatchewan, would irrigate only 3,000,000 acres, more or less," then the utmost in an effort directed toward careful planning, becomes an urgent necessity.

The Commission does not hesitate, however, to say further: "While the best use of water is an urgent consideration in the Saskatchewan River basin, the problem has not been understood in its broadest aspects, nor have solutions to it been conceived in terms of the fullest ultimate use of available water." Such direct criticism will come as something of a shock to many prairie residents, who have been more or less content to await a rational and progressive development of efficient water utilization in the semi-arid portion of the prairies. To read now that no one has yet, either understood the problem, or approached it broadly enough, after 65 years of thought and action, is to make one doubt either the responsible attitude of engineers, the administrative responsibility of the governments concerned, or the reliability of the Commission's report. We incline to the latter doubt.

We find it difficult to believe that from the time William Pearce began urging the use of prairie waters for irrigation about 1885, until the report of the Commission in 1953, no one, except the Commission, has understood the problem broadly, or appreciated the necessity for a plan to secure the fullest ultimate use of available water. The first irrigation system was established in Alberta in 1902. As early as 1920, the former Department of the Interior investigated the feasibility of diverting waters from the North Saskatchewan into the Clearwater and Red Deer Rivers. This project was reported on by the PFRA again, within a few years of its inception. After PFRA had attempted a broad approach to the problem of water conservation, ten years of surveys and investigations went into the South Saskatchewan basin. Indeed, there are probably few, if any, watersheds, large or small, in the Prairie region, the potentialities of which have not been investigated. It is, therefore, difficult to believe that the experienced engineers, who serve our provincial governments and the PFRA, have been as incompetent and unimaginative as the Commission would have the Canadian public believe.

The Commission was at some pains to criticize most of the irrigation development which has occurred up to the present time in the prairie provinces, as having taken place in "fringe" areas, that is, areas in which dry farming can be successfully carried on; and it classes the central Saskatchewan area as another "fringe" area. The Commission itself reports, however, that Outlook has annual rainfall of 11.61 inches as compared with 13.06 inches at Brooks, 15.75 inches at Lethbridge, and 13.27 inches at Medicine Hat. It likewise reports that the irrigated district at Salt Lake City, Utah,

is in an area with annual precipitation of 15.79 inches and at Fort Collins, Colorado, of 15.2 inches. Only a comparatively small portion of the northern part of the Saskatchewan Project area would appear to qualify as a "fringe" area.

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IT is by no means reassuring to have the Commission conclude that the governments who formed the Prairie Provinces Water Board in July, 1948, are not yet in agreement as to its functions, and that, "there is equally no unanimity on the question whether or not economic factors involved in a project should be considered by the Board." The submissions of Alberta and Saskatchewan do indicate quite clearly that the two provinces hold more or less opposite views with respect to the desirability of the South Saskatchewan River Project. A consequence of these differing points of view was that in September, 1951, when Saskatchewan applied for allocation to the South Saskatchewan Project, of 960,000 acre-feet of water, only a two-year reservation was granted, pending the report of the Royal Commission.

Alberta's position, of course, is not that she desires to refuse Saskatchewan her rightful share of available water, but that she favors a combined project over separate projects in the two provinces. Alberta favors a modification of the old William Pearce scheme, which was to draw water from the North Saskatchewan, Clearwater and Red Deer Rivers. This scheme could be extended to provide water in central Saskatchewan as far east as Saskatoon, at an estimated total cost of some \$38 million less than if the two projects were constructed separately.

Saskatchewan's objection to this proposal is based on the belief that dollar cost is not necessarily the sole, or even the principal, criterion of economy. Saskatchewan has contended that to link up central Saskatchewan with the Red Deer project would require 839 miles of canals in all, as compared with 299 miles of canals for the two schemes separately. Largely because of the additional canal mileage, it is contended that canal and seepage losses of water would be increased by 859,000 acre-feet if the two schemes were combined. Saskatchewan, therefore, urges that it would be much more economical of water to take what is necessary from the South Saskatchewan River, as close to the area to be irrigated as possible, than to acquire it at a saving in dollars, but at a cost of essential water which cannot be replaced. The fact that Saskatchewan fears the loss of an amount of water annually, which is within ten per cent of the total amount requested for the South Saskatchewan River Project, illustrates what is meant by the statement that cost, in terms of the scarcest commodity, is the safest criterion of economy.

These differences of viewpoint are as natural as they are unfortunate. They can, of course, create serious problems in inter-provincial relations; or they can spur the interested provinces to gather all of the available facts, and to resolve the problem by the speediest possible means. Up to now, each of the two provinces most concerned has believed that the method it prefers will achieve the greatest ultimate efficiency in the use of water. Factual information must provide a large part of the answer.

Since the province of Saskatchewan has already committed herself to the Project, the decision now rests with the Government of Canada. In June, 1952, the Prime Minister told the House of Commons: "I hope this Commission will find that the South Saskatchewan Project would constitute a proper investment of the amount of capital required to bring it into existence. If it does, there will be a commitment by this government . . ." The Commission found adversely on both questions referred to it.

We do not know, and do not say, whether or not the South Saskatchewan Project should be constructed. We do believe that the Commission has not given fair or adequate answers to the two questions referred to it. The decision as to what should be done about the South Saskatchewan River Project rests with parliament. The government apparently was predisposed toward the Project before the Commission was appointed. We see very little, if anything, in the report, to cause the government to change a previous opinion.